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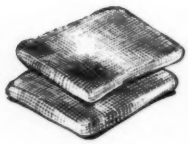

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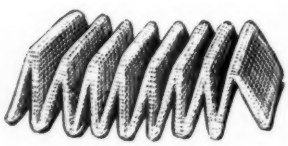

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GUEST EDITORIAL

The Doctor and Civil Defense

ANY hostile attack against this country will be a calculated effort to disrupt production of war materials, to destroy factories, homes and goods, and to produce panic, and will result in a large number of casualties. No one knows in what manner an enemy might strike. It may be by conventional warfare with the usual incendiary or high explosive bomb. It might be with atomic bombs or bacteriological weapons. The nature of the weapon, or weapons, used, will cause wide variation in the job imposed upon health services, and for this reason the Plan for Medical Emergency Services must be broad in scope, and flexible enough to cover any type of emergency.

None of the potential weapons causes illness or injury entirely new or mysterious. The newest chemical weapon is the so-called "nerve gas", with which we are familiar. Biological weapons may be directed against plants and animals as well as man, and may present entirely new diseases against which we would have little or no resistance.

The problem confronting the civilian health services is enormous, and is fundamentally one of medical logistics—of time and resources against a tremendous number of casualties occurring in a short space of time. The terrible picture of wounds, burns, shock and fractures which may occur, should make us realize the importance of complete planning.

Since the big problem confronting Medical Emergency Services is primarily one of disease and injury to man and his environment, its solution, with its demanding services, planning, operations and periodic evaluations, falls upon the branch of medicine known as Public Health. This fact should be recognized and civilian defense planners should designate Public Health physicians and those dealing with Preventive Medicine as their assistants in Medical Emergency Service planning.

As in the preparation of a well-compounded prescription, there are many factors which must be considered in establishing a good overall civilian defense program. We must have fire and police protection, communications and transportation. These must be thoroughly mixed in the vehicle of community responsibility and pride in our liberties and way of living. The active ingredient in this prescription for self-preservation is the doctor and the allied professions.

The mission of the Medical Emergency Services is to prevent death, to reduce disability and to relieve suffering following any major catastrophe. The accomplishment of this mission will be a major contribution to civilian manpower and morale.

Many things have been done in Virginia toward obtaining an adequate and satisfactory civilian defense program, but many more remain to be done. To assist the Chief, Medical Emergency Services in state planning, the Medical Society of Virginia has appointed an Advisory Committee from its ranks, headed by the State Commis-

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sioner of Health, and with representatives of the State Dental, Graduate Nurses, Hospital, Pharmaceutical, Veterinary and Mortuary Associations. Three scientists have had a six weeks training course on Atomic Energy and Special Weapons, one instructor has had a course in Radiological Health Training, another has received training in Radiological Water Sanitation. Six nurses have received training in the Nursing Aspects of Atomic Warfare. All of these instructors will be utilized to teach others throughout the State. Red Cross classes in First-Aid and for nurses aides are being organized at local levels. The Guide for Medical Emergency Services has been published and distributed to the local health service physicians.

Among the things left to be done are those requiring the direct assistance of the physicians of the State. They consist of the recruiting and training of First-Aid teams, clearing station personnel, and shock, burn and surgical teams for emergency hospitals. Hospitals must take inventory of how they can best assist the Civil Defense effort by increasing space for emergency beds, staffing emergency hospitals and increasing their stockpile of drugs, instruments, blood substitutes and other equipment. Each medical society, as well as individual physicians should cooperate in establishing blood donor lists, in getting the people in the local area blood typed and tagged, since whole blood, blood derivatives and blood substitutes will be of utmost importance should disaster strike.

Help your state by helping yourself. See your local Chief of Medical Emergency Services now.

W. R. SOUTHWARD, JR., M.D.

NOTE: Dr. Southward is Chief of the Medical Emergency Service of the State Office of Civilian Defense and is Director of Venereal Disease Control of the State Department of Health.

Floral Eponym

Nicotiana

JOHN NICOT SEIGNEUR DE VILLEMAIN (1530-1600)

Nicotiana is a genus of herbaceous annuals and perennials comprising 45 members of the potato family. All are American except one which grows in Australia.

In 1558 Francisco Fernandes brought N. Tabacum to Spain. John Nicot, French Ambassador to Portugal sent seed to Catherine de Medici. At first, almost miraculous healing powers were attributed to the plant. The use of the plant for smoking came through England. Ralf Lane, the first Governor of Virginia, and Sir Francis Drake brought to the notice of Sir Walter Raleigh the habit of smoking tobacco. The use of tobacco is more widely spread than is that of any other narcotic or stimulant.

Signeur de Villemain, famed for introducing tobacco into France, was the author of a dictionary of the French language. He was born at Nimes and died at Paris in 1600.

LUNG RESECTION FOR TUBERCULOSIS

Frank Philip Coleman, M.D.,
and
H. J. Hancock, M.D.,
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Richmond, Virginia.

Tuberculosis is a disseminated disease which often involves multiple organs and seldom if ever is it confined to one lung. The ability of the host to overcome the infection is dependent upon the development of immunity to the organism. This immunobiologic response of the body is not too well understood, but it requires serious consideration in the timing of collapse operations, antibiotic administration and excisional surgery. The treatment of pulmonary tuberculosis requires individualization of cases. Experience leads to the establishment of a general policy of attack, but frequently the results are disappointing and other methods must be instituted for control of the disease. This unpredictable behavior of pulmonary tuberculosis requires, at the time of initial treatment, broad vision as to the possibility of future additional methods of arresting the disease.

Streptomycin offers valuable protection to the patient during major operative procedures. The development of resistant organisms after prolonged administration of the drug requires careful appraisal of its use during the period of conservative collapse measures or bed rest. There are patients with acute tuberculosis where streptomycin or other antibiotics may be life-saving and the drug must not be withheld; however, many patients have received streptomycin over a prolonged period of time without consideration of the need for future major operative procedures. We doubt the wisdom of giving streptomycin to any patient during the initial treatment where there exists a reasonable chance of controlling the disease by some collapse measure or bed rest. The revokable or conservative methods of collapse treatment consist of paralysis of the diaphragm, pneumoperitoneum, intrapleural pneumothorax and extrapleural pneumothorax. Thoracoplasty and lung resection are major operative procedures which sacrifice to varying extents functional healthy pulmonary tissue. Excision of a tuberculous lobe or lung has always been an attractive possibility, but the inherent disseminated characteristics of the disease have offered definite limitations to this method of therapy. Although streptomycin and other antibiotics have broadened the indications and have made excisional therapy safer, the maximum usually accomplished is removal of the major focus of tuberculous toxemia and site of origin of the positive sputum. This accomplishment parallels the results of collapse therapy, for, in the final analysis, the natural body defenses account for cure of the disease.

Tuffier performed the first successful resection of the lung for tuberculosis in 1893[7]. During the next one-half century less than one hundred cases of pulmonary resection for tuberculosis were reported in the literature[2,4]. Moore and Murphey[5] found 616 cases of resection for pulmonary tuberculosis in the American literature up to May, 1948. There was an operative mortality of 15 per cent and spread or exacerbation of tuberculosis occurred in 25 per cent of 456 cases suitable for study. Streptomycin, improved surgical technique, prone position during operation[6] and detailed operative care have shown striking improvements in the immediate and late results[1,3,5]. Reported comparative series of streptomycin and non-streptomycin cases attest the value of this antibiotic in the prevention of operative complications and in making excisional surgery safer[1,5].

Indications for Resection

The indications for pulmonary resection in tuberculosis have a defined and limited application at the present time. Excision of the lung should be restricted to those patients for whom the modern type of thoracoplasty and other collapsing operations have proven unsuccessful or are likely to be ineffective. Our experience is limited to a series of 21 private patients (F.P.C.), and 29 patients from the Thoracic Surgery Service, McGuire Veterans Hospital. The indications for the 50 pulmonary resections were as follows:

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1. Failure of Conservative Collapse Measures.—Twenty per cent of our patients were operated upon because of failure of a good anatomical pneumothorax or failure of prolonged pneumoperitoneum or both. Six of the 10 cases had lower lobe cavities while the other 4 had upper lobe tension cavities. Five patients received both pneumoperitoneum and pneumothorax.

2. Thoracoplasty Failures.—The residual cavity following thoracoplasty can usually be attributed to inadequate surgery, endobronchial disease resulting in positive pressure cavities, thick wall cavity, unfavorable location of the cavity and mechanical interference with compression of the diseased area by an overlying thickened pleura or markedly fibrotic lung. In 75 per cent of the thoracoplasty failures

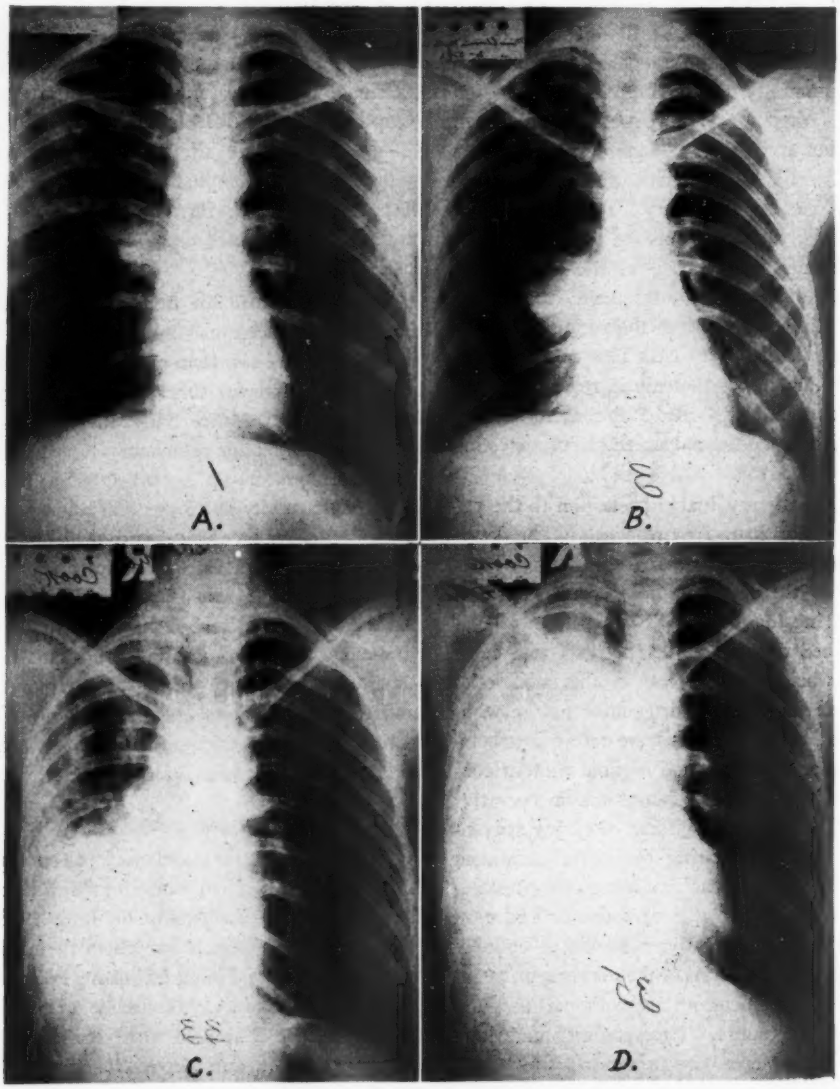

Fig. 1.—a. Moderately advanced pulmonary tuberculosis upper lobe right lung. Desirable indications for pneumothorax. b. Good anatomical pneumothorax of 4 years' duration. Sputum persistently positive. Disease uncontrolled. c. Progression of disease after 8 years of pneumothorax. Right lung destroyed. Cavitation all lobes. Tuberculous empyema, right. d. One year after pneumonectomy and total pleurectomy, right. Sputum negative. Left lung clear.

subjected to pulmonary resection, we found the parietal wall of the cavity to be composed of the thoracic wall itself. We believe this pathologic observation is one of the primary reasons for failure of thoracoplasty. In 4 of these cases the cavity was ruptured during its removal and only with difficulty could the cavity wall be extirpated from the thoracic wall. If a cavity persists after a good anatomical thoracoplasty, cavernostomy or excisional surgery is indicated. Cavernostomy is usually indicated in those patients where there is evidence of pre-existing bilateral disease or the presence of contralateral collapse therapy. We prefer excisional therapy in the thoracoplasty cases where multiple cavities exist and in those patients with a solitary cavity where the respiratory reserve is adequate. Excisional surgery is decisive in its attack while cavernostomy is more inclined to prolong the morbidity in view of the necessity for frequent muscle transplants to close the residual defect.

3. Destroyed Lung.—Four patients had pneumonectomies performed for extensive unilateral disease with cavitation in all the respective lobes (Fig. 1). Two of these patients had had previous thoracoplasties.

4. Elective Resections.—Four patients who were suitable for thoracoplasty were subjected to lobectomy eight or more years ago purely from an investigative standpoint. Although these patients are apparently cured, we do not believe that resection should be performed on any patient where thoracoplasty has a reasonable chance of success.

5. Bronchostenosis.—Cicatricial stenosis of the bronchus with evidence of poor bronchial drainage and often secondary suppurative changes in the lung distal to the stenosis constitutes one of the well established indications for pulmonary resection. If bronchial stenosis exists in the presence of what appears to be a good anatomical pneumothorax, primary pulmonary resection is indicated. If bronchial stenosis yields to bronchial dilatation permitting adequate drainage of the lung or lobe, a thoracoplasty will frequently suffice for closure of the cavity distal to the stenotic area. If the cavity is not closed by thoracoplasty, pulmonary resection is then indicated.

6. Tuberculoma.—Pulmonary resection is indicated where a tuberculoma is associated with a positive sputum, uncontrollable or harassing cough and in certain instances where malignancy of the lung cannot be excluded.

7. Position of the Cavity.—In 3 patients with cavitation in the superior segment of the lower lobe and in one patient with cavitation in the lingula of the upper lobe, pulmonary resection was carried out after preliminary unsuccessful attempts at pneumothorax. The fifth patient was operated upon for a basal cavity after a trial with pneumothorax. These cases might well be classified under failure of conservative methods of treatment. We do not believe that the position of the cavity in itself constitutes a strict indication for primary pulmonary resection.

8. Mistaken Diagnosis.—Six patients were subjected to pulmonary resection because cancer of the lung could not be excluded by preliminary preoperative studies. Although block cavities were considered in 2 patients, this diagnosis was not established until the lobes had been removed.

9. Complicated Bronchiectasis.—The process of healing of tuberculous lesions either with or without collapse therapy is usually accompanied by some bronchiectatic changes in that portion of the lung. Usually the bronchiectasis is asymptomatic and requires no treatment. Lobectomy was carried out in 4 cases in our series for bronchiectasis. In 3 of the cases the sputum was positive while the fourth case was known to have had a positive sputum with active parenchymal disease in the left upper lobe of the lung prior to the onset of recurrent massive hemorrhages from this region. Bronchograms subsequent to a massive hemorrhage revealed bronchiectasis in the left upper lobe. Bronchiectasis subsequent to the healing of pulmonary tuberculosis should be operated upon only when associated with a positive sputum, recurrent pulmonary hemorrhages or secondary inflammatory changes.

10. Secondarily Infected Tuberculous Cavities.—Two patients were subjected to lobectomy for lung abscesses arising in pre-existing tuberculous cavities.

11. Unplanned Resections. — Subsequent to a cavernostomy for a residual cavity following thoracoplasty, it was observed that one of our patients had a pseudo-aneurysm arising from a branch of the pulmonary artery. This situation necessitated a lobectomy in a patient who was not a good risk for excisional therapy. A second unplanned resection was precipitated by inadvertently rupturing a cavity in

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the upper lobe of the lung during a revision thoracoplasty and apicolysis.

SELECTION OF PATIENTS AND TIME OF OPERATION

Although a patient may present desirable and well accepted indications for pulmonary resection, it is extremely important that he be evaluated carefully prior to this method of treatment. A candidate for resection should have the same exacting studies as a patient about to undergo a thoracoplasty. The cardiac and respiratory reserve should be carefully appraised in order to avoid postoperative pulmonary insufficiency or respiratory cripples. Adequate pulmonary function demands not only the inhalation of proper volumes of air but sufficient air must be distributed to the alveolar spaces which are being perfused with blood. We have not resorted to complicated and exacting physiologic studies prior to resection, but we have depended primarily upon a general clinical evaluation of the patient. Response to exercise, vital capacity and ability to tolerate previous collapse procedures have proven to be reliable, but instances will arise where physiologic studies will be of immeasurable value. The respiratory volume may appear to be adequate, as indicated by the vital capacity, but should roentgenograms reveal generalized pre-existing disease of the lungs or evidence of fibrosis and emphysema, it can be assumed that the respiratory function has been crippled. Patients in this category require detailed physiologic studies.

The general condition of the patient should be equal to withstanding a major operative procedure. The presence of serious non-tuberculous disease or grave extrapulmonary tuberculosis contraindicates pulmonary resection.

To a large extent the pathologic type and behavior of parenchymal disease governs not only the indication for resection but the time for performing the operation. Acute progressive or unstable pulmonary tuberculosis in general contraindicates lobectomy or pneumonectomy. It is impossible to determine the stability of a tuberculous lesion without an adequate period of observation. Progressive loss of weight, elevated pulse, daily fever, elevated sedimentation rate and a large sputum volume are clinical indications of activity of the tuberculous lesion. Serial x-rays can usually be relied upon to determine the activity of a specific lesion. If the x-rays show no increase in the activity of the lesion in a patient with clinical evidence of toxicity, a careful study should be made to determine the presence of an extrapulmonary tuberculous focus.

Acute tuberculosis associated with a cavity may respond readily to streptomycin and is inclined to give a false sense of security relative to the time of operation. We have observed reactivation or recrudescence of these lesions which were apparently controlled by streptomycin prior to resection. We believe that contralateral acute tuberculosis should be quiescent or arrested for a period of one year prior to resection. Associated ipsolateral acute disease requires a shorter period of observation providing the lesion is limited to the lobe to be resected. Frequently at operation unsuspected lesions can be palpated in the remaining lobe which were not visible in the preoperative roentgenogram. This again emphasizes the disseminated characteristics of tuberculosis and the importance of a period of prolonged observation before operation. These are the lesions apparently responsible for many of the so-called "spreads" following resection.

Ulcerative tuberculous bronchitis is a contraindication to lobectomy or pneumonectomy if the bronchus must be amputated at the site of ulceration. This lesion not only indicates activity of the disease but it interferes with safe bronchial healing. These patients respond well, as a rule, to streptomycin and should receive a course of this drug prior to a consideration for excisional therapy.

STREPTOMYCIN AND IMMEDIATE RESULTS

This small series of pulmonary resections offered us an opportunity to appraise the value of streptomycin. All cases were operated upon by the same technique. Fifteen of the 17 patients without streptomycin coverage were operated upon prior to discovery of the antibiotic. All patients termed "Streptomycin Resistant" had received 120 grams or more of the drug over a period varying from 120 to 320 days. Prophylactic streptomycin was administered to 24 patients for a period of from one to two weeks preoperatively and for three weeks postoperatively.

The immediate postoperative results of resection in 17 cases who did not receive streptomycin would appear to compare favorably with the results of the prophylactic group (Table 1). Two unplanned resections account for the two incidences of tubercu-

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lous empyema and one bronchiogenic spread in the streptomycin group. If these two cases are excluded, the advantage of streptomycin is obvious. Tuberculous empyema resulted in the death of one patient who received no streptomycin and one death occurred in the streptomycin controlled cases as a result of operative hemorrhage. The high incidence of complications and the operative mortality in the streptomycin resistant group would lead us to seriously consider other measures for eradication of the disease in these patients, if at all possible. One patient in the streptomycin resistant group died of operative hemorrhage and two others died as a result of extensive bronchiogenic spreads.

Streptomycin should not be given to a patient undergoing pulmonary resection for a prolonged period of time unless he suffers an immediate spread or reactivation of the disease. We subscribe to con-

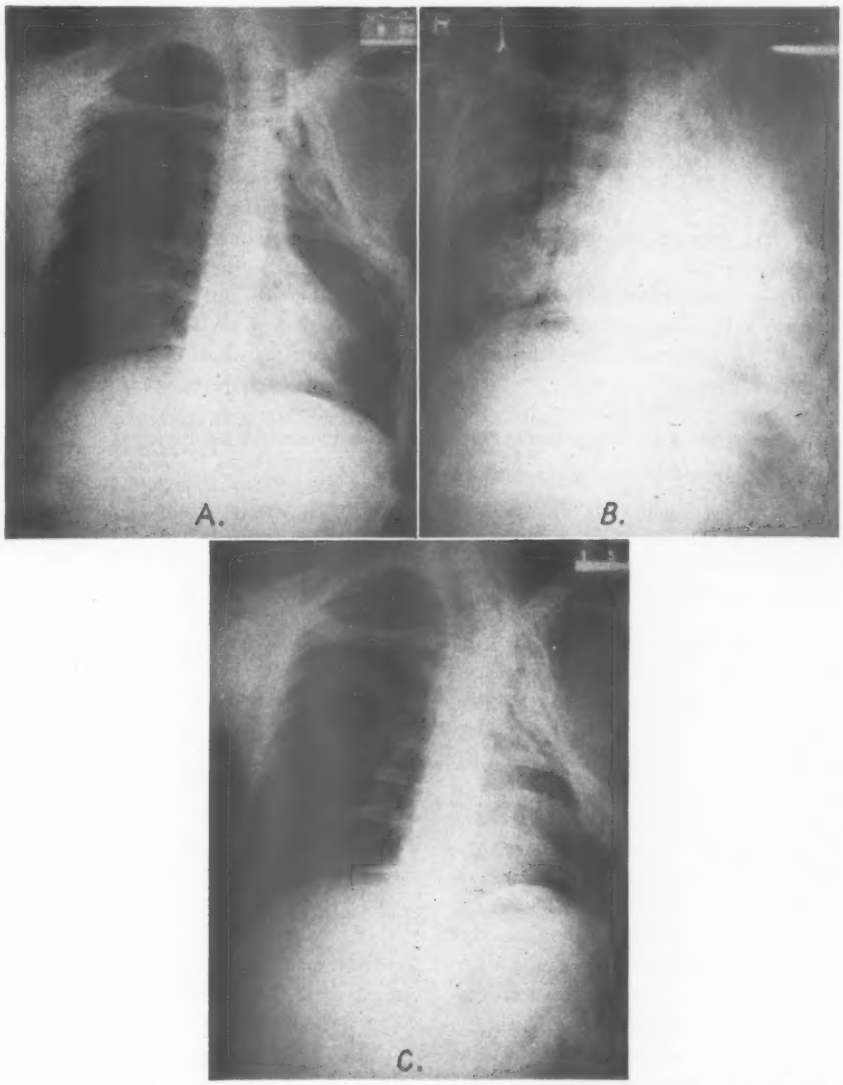

Fig. 2.—a. Failure of good anatomical 7 rib thoracoplasty to control disease left upper lobe. Sputum positive. b. Extensive bilateral bronchiogenic spread following left upper lobe lobectomy. c. Three months after lobectomy. Acute bronchiogenic spread affectively controlled by streptomycin administration. Sputum negative.

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TABLE 1. MORTALITY AND OPERATIVE COMPLICATIONS 50 RESECTIONS

	Streptomycin Control	Streptomycin Resistant	No Streptomycin†
No. Cases	24	9	17
Deaths*	1 (4.1%)	3 (33%)	1 (5.8%)
Fistula / Empyema	2 (8.3%)	2 (22%)	3 (17.6%)
Empyema / Pyogenic	1 (4.1%)	0	0
Spreads	2 (8.3%)	3 (33%)	1 (5.8%)
Wound Tuberculosis	0	1 (11.1%)	1 (5.8%)
Tuberculosis Bronchial Stump	1 (4.1%)	1 (11.1%)	
*Operative Hemorrhage			2
Spreads			2
Empyema			1
†Positive Sputum			15

servatism of the drug even at this stage of the patient's treatment, for several of our cases have shown recrudescence of the disease months later. The use of streptomycin in controlling postoperative bronchiogenic spreads is oftentimes a lifesaving measure (Fig. 2).

stages and an extensive revision thoracoplasty elsewhere. He had an unstable chest wall prior to lobectomy and probably should not have been subjected to operation. Two additional patients will die of progressive disease. One patient developed a spread seven months after a lobectomy and 30 months later he is apparently well with a negative sputum. Two other late spreads or reactivations have an excellent chance of recovery. Eighty per cent, or 36 of the 45 patients surviving pulmonary resection, are doing well and have a negative sputum.

CONCLUSIONS

1. The disseminated characteristics of tuberculosis and its unpredictable behavior requires, at the time of initial treatment, broad vision as to the possibility of future additional methods of arresting the disease. The indiscriminate use of streptomycin during the period of conservative collapse measures or bed rest may later deprive the patient of valuable protection by this antibiotic during major operations.

2. Excision of the lung should be restricted to those patients for whom the modern type of thoracoplasty or other collapsing operations have proven unsuccessful or are likely to be ineffective. To a large extent the pathologic type and behavior of parenchymal disease governs not only the indications for resection but the time of performing the operation.

3. The prophylactic use of streptomycin in resections has led to a decrease in mortality and postoperative complications. Further experience may lead to the conclusion that lung resection for tuberculosis is not safe in the presence of streptomycin resistant organisms.

4. Lung resection has an established role in the treatment of pulmonary tuberculosis. Eighty per cent, or 36 of the 45 patients surviving resection, are doing well and have a negative sputum.

TABLE 2—LATE RESULTS 45 CASES SURVIVING PULMONARY RESECTION

	6 weeks to 3 mo.	3 mo. to 6 mo.	6 mo. to 1 yr.	1 yr. to 3 yrs.	3 yrs. to 5 yrs.	5 yrs. to 11 yrs.
Living and Well (Sputum Negative)—80%	3	4	3	10	10	6
Dead—6.6%	-	-	1	1	--	1
Progressive Disease	-	1	2	-	--	-
Late Spread or Reactivation	-	1	2	-	--	-

LATE RESULTS

Our series of 12 pneumonectomies and 36 lobectomies is too small to break down for comparative purposes. The follow-up studies extend over a period of from six weeks to eleven years (Table 2). Six of the 11 patients operated upon eight years or more ago are living and well and 2 were well at the time of their last follow-up examinations over three years after operation. The other two patients are dead. One died of a tuberculoma of the brain two years after a successful pneumonectomy and the other died from progressive pulmonary disease which was apparently reactivated by a persistent bronchocutaneous fistula of five years duration. This patient did not show any evidence of activity in the remaining lobe for a period of five years. The third late death in the series was due to insufficient respiratory reserve. This patient had had multiple thoracoplasty

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Aureomycin, Chloramphenicol Effective in Mixed Bacterial Infections.

Two Cincinnati physicians report that aureomycin and chloramphenicol—two of the most promising of the newer antibiotics—have brought good results in their treatment of a large number of mixed bacterial infections.

"The results of treatment (on 233 patients) with either of these antibiotics and the indicated surgical procedure were good in a majority of instances, the invasive qualities of the infection being quickly overcome and the local manifestations of the infection disappearing at varying rates," according to Drs. William A. Altemeier and William R. Culbertson in February 17 *J.A.M.A.*

The doctors are associated with the University of Cincinnati College of Medicine and Cincinnati General Hospital. They explained that lesions produced by mixtures of bacteria are especially resistant to chemotherapy and other forms of treatment because of the cooperative action of the infecting bacteria and their tendency to kill tissue and produce extensive abscesses in the abdominal and lung cavities, marked poisoning and progressive spread of the infection. Up to now, treatment of such infections has not been too successful, they said.

In a small number of cases, bacterial resistance to the drugs was noted, the doctors reported, citing 14 cases of resistance among the 179 patients treated with aureomycin and eight cases among the 54 patients who were given chloramphenicol. However, they added:

"There were indications that the efficacy of aureomycin or chloramphenicol in the type of infection in which some of the infecting bacteria were resistant could be increased by the concomitant use of other chemotherapeutic agents to which the organisms were susceptible in vitro (laboratory testing)."

The doctors reported little evidence of toxicity in the patients as a result of the drugs.

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REHABILITATION OF GENITOURINARY MALFORMATIONS

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Exstrophy of the bladder is one of the most distressing malformations that confronts the patient, the family and the physician. In this condition the anterior portion of the bladder is absent and the posterior half including the ureters and trigone are exposed. In exstrophy there is also failure of fusion of the lower abdominal wall with separation of the symphysis pubis and recti muscles. The bladder occupies this defect and actually forms a hernia in the lower abdomen. In the male the roof of the urethra does not form, resulting in a complete epispadias of the penis. In the female the urethra is rarely present. The ununited and widely separated symphysis results in the waddling gait of the individual because of the anterior defect in the bony pelvis. The clitoris, if present, is cleft. Urine continually escapes from the exposed ureteral orifices. This malformation occurs once in 30 to 50 thousand births; an estimated 70 to 110 such unfortunates will be born in the United States in 1950.

The resulting total incontinence of urine is not a problem in the first one to two years of life because the normal baby is not continent up to that time. After the period when normal urinary continence supervenes, the management of this condition is a major one. There is no way in which satisfactory artificial urinals can be devised or worn, and all patients resort to absorptive towels and pads or else continually saturate their clothing. In every instance there is the problem of odor and these individuals are soon conscious of this unfortunate state of affairs. They are ostracized even by members of their family and a maladjusted personality is almost a certainty. They have every right to be seclusive and depressed, but it is remarkable that suicidal tendencies have been strikingly absent in patients with this anomaly. Because of the inability to devise means of effective control of the urine, and the ammoniacal odor their movements in the family life and society have been necessarily restricted, especially as they grow older.

Modern surgical repair of such anomalies have been reasonably successful, but in spite of this in the last decade we have encountered a number of cases in which the families would not agree to corrective surgery and also instances in which they have not been particularly urged by the medical profession to undergo such corrective therapy. A number of improved technical measures have been devised for the correction of these anomalies. In a few cases it has been possible for surgeons to reconstruct the bladder and urethra including the penis. Such an ideal pro-

Fig. 1-A. This figure shows the patient in Case I who was normally developed 21 year old man when first seen in 1941. The protruding bladder forming a hernia can be seen in the lower abdomen.

cedure has been applicable only in rare instances because of the wide separation of the symphysis and herniation of the bladder wall. The latter has made it almost impossible to devise suture lines which would heal because of the constant intra-abdominal pressure against the reconstructed tissues. In most cases transplantation of the ureters into the bowel and excision of the bladder with correction of the defect has been necessarily the procedure of choice. It is a tendency among some urologists to insist upon transplantation and removal of the bladder very early in life. Some leading operators in fact insist that the correction should be made within three to six months of life. With improvement in surgical technique, the advantageous use of antibiotics and control of electrolyte balance a far more successful outcome can now be anticipated from the correction of such anomalies. In light of these results it is the duty of both parents and medical profession to effect such treatment for these unfortunate patients. It is the purpose of this communication to report three striking instances from our series at this hospital which illustrate the extent of rehabilitation that can be accomplished in patients who undergo correction of this anomaly late in life.

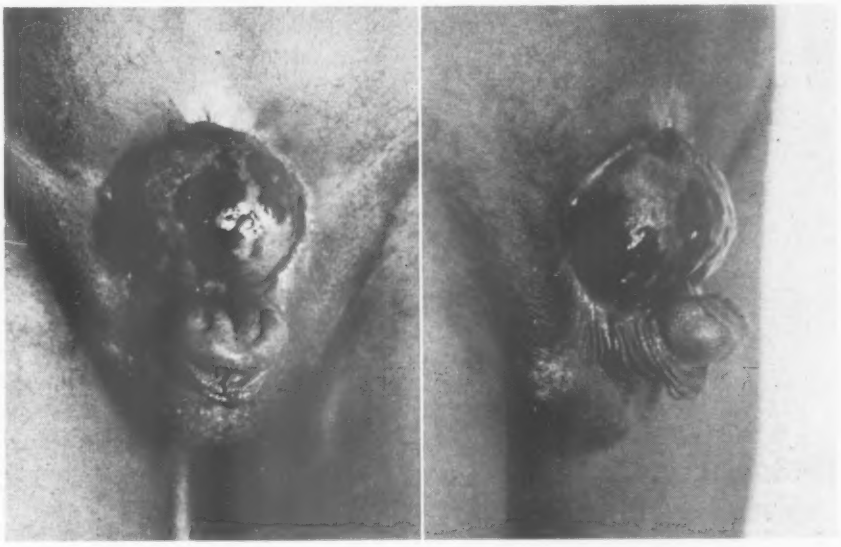

Fig. 1-B. This figure is a close up view of the bladder in the same patient in Case I. The mucosa is excoriated and tender. The epispadiac penis (with absent urethra) is readily visible.

Case I. Univ. of Va. Hosp. #164935. A 21 year old man was admitted in January, 1941, with a history of complete exstrophy of the bladder and epispadias of the penis since birth. Fig. 1-A shows a full view of an otherwise normally developed individual. Fig. 1-B shows an enlargement of the genitalia. The raw, irritated and tender bladder extruded from the lower abdomen. The symphysis pubis was widely separated with a diastasis of the recti muscles. The later diverged widely in the lower abdomen from the umbilicus to the point of attachment of the corresponding symphysis. The dorsum of the penis was lined by mucous membrane, which was continuous with the floor of the prostatic or posterior urethra and the bladder mucosa. The verumontanum and minute prostatic ducts were visible in the floor of the prostatic urethra. On rectal examination the prostate was normal to palpation. The scrotum was well formed and both testes were of average size and well descended. The patient was very shy and did not relish examination. He had segregated himself from society most of his life and did not have any close friends or associates. He controlled the flow of urine from the ureteral orifices by wearing absorbent pads. but his skin had become saturated with annomiacal urine resulting in a strong odor. The patient was healthy and renal function was entirely normal as evidenced by intravenous pyelograms. The patient finally agreed to enter the hospital for further consideration. After encouragement he consented to operative correction of the anomalies.

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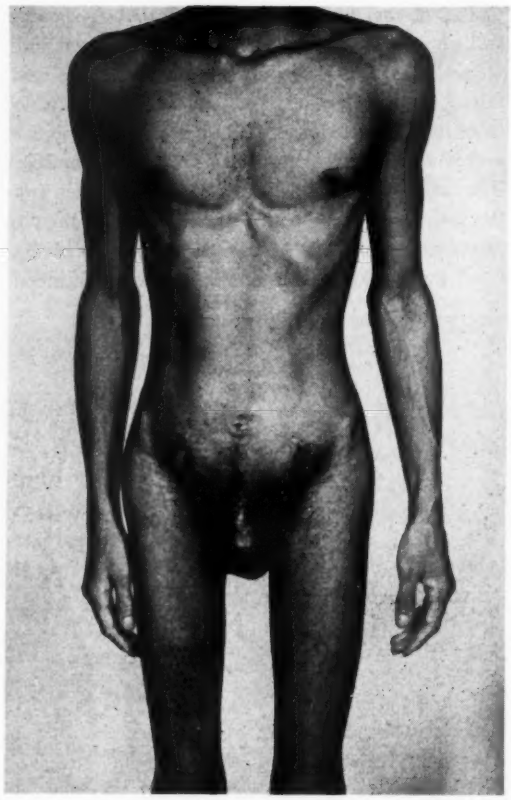

Fig. 1-C. This figure illustrates the condition of the patient in Case I several weeks later at the time of discharge from the hospital. The bladder had been removed with a successful plastic repair of the resulting hernia. He had complete control of the recto-sigmoid reservoir. A normal appearing penis is now present. The mucous membrane on the dorsum was turned inward to form a urethra beginning at the glans penis and ending in a blind pocket in the prostatic urethra. The patient later married and was able to have normal intercourse with ejaculation.

The following operative procedure was then performed. The exstrophied bladder was removed with preservation of each ureteral orifice surrounded by a small cuff of trigonum. The ureters were then transplanted into the upper rectum. Removal of the bladder resulted in a defect in the abdominal wall exposing the peritoneum which formerly covered the posterior aspect of the bladder in the manner of a large hernial sac. Fascial flaps were dissected from the lower lateral aspect of each recti muscle and brought over to the midline to form a buttress in front of this peritoneum. The skin on the lower abdomen was then closed down to the base of the epispadiac penis. Several weeks later a urethra was constructed which originated at the glans penis and ended in a blind pocket at the prostatic urethra. The patient had normal sex urge and had been able to masturbate by irritating the verumontanum so that ejaculation took place in the exposed prostatic urethra. Ejaculation on masturbation now was ejected from the glans penis in the usual manner. Following operation the patient returned home in a somewhat bewildered state to find himself reasonably normal when compared to individuals of his age, with the exception of a well healed scar which originated below the umbilicus in the midline and ended at the tip of the penis, (fig. 1-C). He evacuated urine per rectum without difficulty or any particular inconvenience.

It is remarkable that within a three year period of time he completely readjusted himself to normal life. He soon began to associate with individuals of his own age and of the opposite sex. He obtained a job and has since been able to support himself. Within three years he was married and on last report he was living happily with his wife, having normal and frequent intercourse which was entirely satisfactory to both. It is also remarkable that this patient could readjust himself to a life of reasonable normalcy after living one of a recluse for his first twenty-one years. It is also unfortunate that the correction could not have been accomplished much earlier in life so that he would not have been denied normal childhood and adolescence.

Case II. Univ. of Va. Hosp. #198360. This 12 year old girl was admitted in January, 1944, with a complete exstrophy of the bladder. The anterior abdominal wall was absent with protrusion of the posterior bladder wall and trigone above the suprapubic area. There was redness, excoriation and exquisite tenderness of the protruding bladder. The clitoris was bifid with the labia and the pubic bones widely separated. The urine was draining freely from the ureters down over the bladder, lower abdomen and inguinal regions.

The hymen was imperforate. Rectal examination revealed good sphincter control. A mass was palpable in the anterior rectal wall which was felt to be the fundus of a normal uterus. This girl was extremely shy and her family had to bring her to the hospital by force. On several occasions when her mother tried to bring her for the first examination she ran away from her home up into the hills and it was with considerable trouble that her family prevailed and allowed us to admit her.

In January of the same year we carried out successful bilateral transplantation of the ureters into the sigmoid. This diverted the urinary stream and urinary control as a problem was eliminated. Her postoperative course was extremely smooth and subsequent pyelograms revealed entirely normal kidneys. At the time of the transplant, the patient was twelve years old. After diversion of the urine the mucous membrane of the bladder was no longer excoriated and it assumed a rather pale, shrunken appearance. She returned three months postoperatively because of a bulging hymen. She had begun to menstruate so that perforation of the hymen released the obstructed menstrual flow. Intravenous pyelogram at the time revealed an entirely normal upper urinary tract. The patient was scheduled to return to the hospital within the year for excision of the exposed bladder. The mother contacted us several times and explained that she could never "catch" the patient to have her return for removal of the bladder.

The patient was next seen by the writer a year ago at the age of seventeen. She had grown remarkably, lost her reticence and stated that she did not have time to come back for removal of the bladder because she was now married.

This is another example of a remarkable reversal of status both in the physical condition and the psychological outlook of an unfortunate individual. Other than the exstrophy of the bladder, which is still present, the patient has grown to be a perfectly normal looking woman and is evidently leading an entirely normal family life with no history that would suggest other than normal kidney function.

Case III. Univ. of Va. Hosp. #65513. This 21 year old girl was admitted in 1927 with complete exstrophy of the bladder. The patient had previously been seen in 1910 at the age of four and corrective operation refused at that time by the patient's mother. She had returned at the age of 21 requesting operative treatment because she had become so obnoxious to herself. She was nervous, easily excited and had begun to have fainting spells of unexplained etiology. She had been menstruating normally since the thirteenth year.

Examination showed a complete exstrophy in which the bladder wall and mucosa projected to the exterior. There was failure of closure of the pubic bones but in this case the body of the symphysis was connected by a fibrous band. Below the projecting bladder were well developed labia majora. Associated with this genital anomaly was polydactylism and webbing of both fingers and toes. The extra digits had been removed at three days of age. At this time intravenous urography had not been developed but retrograde catheterization of the ureters and pyelograms revealed normal upper urinary tract. In November, 1927, the right ureter was successfully diverted into the sigmoid followed by a similar diversion of the left in January, 1928, (Dr. J. H. N.). In September, 1929, the patient returned for complete excision of the exstrophy of the bladder. The defect was closed by a flap of abdominal skin and the imperforate hymen was excised laterally to admit two fingers. A moderate size ventral hernia per-

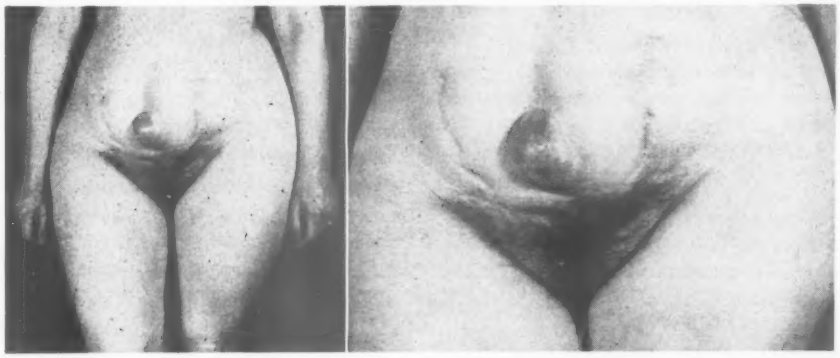

Fig. 2-A. This figure illustrates the patient in Case III 23 years following transplantation of both ureters into the recto-sigmoid followed by excision of the completely exstrophied bladder. It can be noted that a small diastisis of the recti is still present with an abdominal hernia persisting at the site where the bladder was removed. The hernia was non-progressive and asymptomatic. Vertical incisions in the abdominal wall are visible where it was necessary to divide the abdominal skin in these areas in order to approximate the skin in the midline over the hernial defect after removal of the bladder.

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sisted postoperatively but this has been of no particular moment. The patient soon readjusted herself to a life of urinary control, and passed urine three times during the day and twice at night. When seen five years later she gave no history of pain in either kidney, chills, fever, or other complaints. She was married and reported that intercourse was normal. The patient was seen again in 1939 with no complaints referable to the urinary tract but with some suggestive symptoms of hyperthyroidism.

She was seen again in May, 1950, and looked to be normal and healthy (fig. 2-A). Figure 2-B shows close up of the genitalia and the small asymptomatic hernial defect in the scar where the bladder was excised. She was still happily married and carries out her house and farm work. She stated that she has had no chills, fever, or pain in the region of the kidneys. There have been no illnesses of any kind except for a very rare coryza. She evacuates urine copiously from the rectum once to twice at night and from three to six times during the day without difficulty.

SUMMARY

These three cases from our files illustrate the possibilities of both anatomical and psychological rehabilitation in patients with such tragic genitourinary abnormalities. It is important that these patients come under the surveillance of qualified urologists early in life so that proper plans can be made for the correct technical procedure at the proper time. This is a joint responsibility of the family and medical profession. With such adjuvants as modern surgical technique and antibiotics a satisfactory rehabilitation can be effected earlier in life and spare both the patient and family much mental anguish.

New Books.

The Tompkins-McCaw Library of the Medical College of Virginia, Richmond, lists some of its newer books which may be borrowed under usual library rules:

Bauer—Differential diagnosis of internal diseases.

Baur—Urgent diagnosis without laboratory aid.

Colebrook—A new approach to the treatment of burns and scalds.

DeJong—The neurologic examination.

Dixon—Multi-enzyme systems.

Feinberg, Malkiel and Feinberg—The artihistamines.

Henderson and Gillespie—Textbook of psychiatry. 7th edition, 1950.

Holmes and Schulz—Therapeutic radiology.

Jones—The effect of gastric mucin on the infectivity of fungi responsible for certain systemic mycotic infections. A thesis.

Kyser—Therapeutics in internal medicine.

McBain—Colloid science.

Mettler, ed.—Selective partial ablation of the frontal cortex.

Rosenblueth—Transmission of nerve impulses at neuro-effector junctions and peripheral synapses.

Selye and Stone—On the experimental morphology of the adrenal cortex.

Turner—The clinical use of testosterone.

United States air force—German aviation medicine. World War II. Vols. I and II.

Williams, *et al.*—The biochemistry of B vitamins.

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EARLY MEDICINE IN THE OLD DOMINION*

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My subtitle might well be "What the Virginia Frontier Did to English Medicine." The first settlers were deep-water pioneers. Sailing vessels from England came to their very doors, bringing household goods, books and news from London in exchange for tobacco and lumber. Although savage Indians roamed the forests to the rear of their plantations, the settlers were in constant communication with the mother country. Later, as tobacco culture depleted the land, and more settlers came, immigration pushed on into the Piedmont. To these the cost of transportation of goods from England was almost prohibitive and the settler was thrown upon his own resources. While this was going on in Eastern Virginia, another stream of immigration started down the Valley of Virginia from Pennsylvania. These people were Irish, Scotch-Irish, Germans and Swiss. They were thrifty, hard-working and liberty-loving, and they set great store upon education. The Cohees, as they were called, were quite different from the Tuckahoes east of the Blue Ridge, and had many qualities that the easy-going Eastern Virginians lacked. These two forces met in Augusta County† and amalgamated, as much as there can be amalgamation with a Scottish Presbyterian. We hear much of the various melting pots, but Nature must have chosen well the ingredients for this crucible, for out of it came great names in medicine, as well as in the economic and political history of the nation.[1] Ephraim McDowell, who performed the first ovariotomy and thus laid the foundation for Modern Surgery, and his heroic patient, Jane Todd Crawford, both migrated to what is now Kentucky from this section. Jessee Bennett performed the first cesarean section in this county, and Alexander Humphreys, the precepter of both McDowell and Bennett lived and practiced there. Here were born Cyrus McCormick, inventor of the reaper, and James A. E. Gibbs of sewing machine fame, Archibald Alexander, the theologian, John Letcher, the statesman, and Sam Houston, who brought Texas into the Union and did many other things, creditable and otherwise.

The log cabin is a good indicator of this mixture of civilizations. The Eastern Virginians knew nothing about building a log house.[2] Not until the Germans came into the Valley of Virginia do we find evidence of the log cabin. In several decades it had spread east over the Blue Ridge Mountains and west into Kentucky. Just as the early Virginians lived in English houses and made gardens patterned after those in the old country, so they practiced, whenever possible, the kind of medicine that their kinsmen across the Atlantic practiced. Let us see what this medicine was.

When the English established their colony at Jamestown in 1607, medicine was just waking up from its long sleep of the middle ages. Vesalius (1514-1564) had begun to picture anatomy as he actually saw it, and not as Galen had described it, and Paré (1510-1590) had introduced some common sense into the practice of surgery. Francis Bacon (1561-1626) was just beginning to teach men to think scientifically. Harvey (1578-1657) had not yet discovered the circulation of the blood, nor had Leeuwenhoek (1632-1723) constructed his microscope. Physiology and pathology were non-existent. There were no disease entities, just undifferentiated disease, and the medical practitioner had only to know whether it were constitutional or local, sthenic or asthenic, and in what degree, in order to institute what was considered the proper treatment. Treatment was essentially antiphlogistic-restricted diet, purging and bleeding.

The organization of medicine was much more complicated. In London the practitioners of medicine and surgery were divided into, and controlled by, medical corporations comparable to the guilds of the middle ages. The College of Physicians, founded in 1518 functioned for the physicians, except that medical graduates of Oxford and Cambridge were exempt from its jurisdiction.[3] The general body of the medical profession belonged to the Barber Surgeons Company which had disciplinary powers and ensured certain minimum standards of knowledge. The apothecary in London belonged at first to the Grocer's

*Read in the Section on Miscellaneous Topics at the Centennial Meeting of the American Medical Association.

†Augusta County at one time included Rockbridge, Bath, Alleghany Counties and the State of Kentucky.

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Company. In 1606 the apothecaries obtained a charter from King James I for a separate organization which in 1617 became "The Society of Apothecaries". In time the apothecaries encroached so greatly upon the province of the physicians that fierce quarrels arose between the two bodies.

The first impact of the Virginia frontier on the English system occurred in 1608. Walter Russell, a physician, accompanied Captain John Smith and a small party on an exploring expedition.[4] On a tongue of land, now called Stingray Point, between the Rappahannock and the Piankatank Rivers, and the Chesapeake Bay, Captain Smith was stung on his forearm while taking a ray from his sword. In four hours the hand, arm, shoulder and part of Smith's body were so greatly swollen that it was thought he would die. In fact, his grave was prepared nearby. There being no surgeon available Dr. Russell applied a precious oil and ere night the tormenting pain was so well assuaged that Smith ate the fish for his supper, thus exemplifying the old adage that the hair of the dog is good for the bite.

There is no evidence that there was ever any distinction between physician, apothecary, and surgeon as had existed in Great Britain. In fact, anyone who felt like it practiced medicine in Colonial Virginia, and there were many charlatans and quacks. The state of medical knowledge was conducive to such practices. No diagnosis was necessary. If a patient were sthenic, he was bled and purged, and it was just a question of how much. If he were asthenic, and few were, he was given supportive treatment, wine and iron. All the practitioner needed was confidence in himself and a feeling of superiority that often comes from the possession of books, any kind of books, in a society half of whose members could not sign their names. William Byrd and Thomas Jefferson are brilliant examples of the lay practitioners of medicine. Mr. Jefferson took great interest in the philosophical aspects of medicine. He was influential in establishing branches of medicine in William and Mary College and imported the first full-time medical faculty for his newly founded University of Virginia.[5] More than anyone else perhaps, he was responsible for the introduction of vaccination into the United States.[6] Mr. Byrd, on the other hand, was interested in the actual practice of medicine. He had a poor opinion of the practitioners of his time[4] and did not hesitate to practice upon his servants and to send to London for remedies for himself.

The early Virginian, like pioneers the world over, did not think highly of technological knowledge. He solved his own engineering problems and took care of his medical emergencies. In 1639 the House of Burgesses passed a bill regulating fees. Physicians were spoken of as "avaricious and griping practitioners of physic and chirurgery" who exacted "excessive and immoderate prices" for their services. By 1660-61 the colony had become more civilized and passed a bill which provided for the collection of fees out of deceased patients' estates. But thirty years later the act was revoked and physicians were made liable under the new law for arrest for overcharging. From this time on, the House of Burgesses took more interest in the practice of medicine. In 1712 it passed an act providing for the registration of births, christenings, and burials. The minister of the parish was empowered to keep these records. Other acts provided for the care of the indigent sick (1748), for the quarantine of ships coming from countries where the plague was epidemic (1722), for quarantining against jail fever and smallpox (1767), and several acts between 1768 and 1792 regulated inoculation of smallpox.

It is surprising to find so little evidence of the influence of Indian Medicine. When this country was colonized, therapeutics was in the ascendancy. Herb Gardens were prominent features of the English landscape. It was hoped that discoveries across the Atlantic would produce new herbs and roots. The discovery of cinchona bark added weight to this hope. What was more natural than to believe that the Indian, the child of Nature, would know many of Nature's remedies. The wide-spread use of Indian remedies that were sold at circuses and fairs at the beginning of the present century was a fruition of such beliefs. The colonists came in close contact with the Indians, both in war and in peace, but were apparently little influenced by Indian medicine if indeed they knew anything at all about the Indian's medical practices. It is true that John Tennent, in his Essay on the Pleurisy (1736), extolled the virtues of polygala senega, commonly called snake root. He states that he learned from the Senecas that the root of this plant, when chewed immediately, would prevent death from the bite of a rattlesnake.[4] He argued that so potent a remedy should be helpful

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in the treatment of pneumonia and pleurisy for which there was no useful remedy at the time. Tennent convinced himself of the value of the remedy and received a grant of 100 pounds from the House of Burgesses, but he failed to convince his fellow practitioners.

The only other Indian remedy that I have discovered, proved to have more virtue. William Byrd,[8] in his "History of the Dividing Line", relates that he asked his Indian guide why so few Indian women were barren. His Indian answered with a broad grin upon his face that the Indians have an infallible secret for that. "If any Indian woman did not prove with child at a decent time after Marriage, the Husband, to save his Reputation with the women, forthwith entered into a Bear-Dyet for Six Weeks, which in that time makes him so vigorous that he grows exceedingly impertinent to his poor wife and 'tis great odds but he makes her a Mother in Nine Months. And this I am able to say, besides, for the Reputation of the Bear-Dyet, that all the Married men of our Company were joyful Fathers within forty weeks after they got Home, and most of the Single men had children sworn to them within the same time, our chaplain always excepted, who, with much ado, made a shift 'to cast out that importunate kind of Devil, by Dint of Fasting and Prayer.' "

Lest you gain an unfavorable opinion of Virginia doctors, I hasten to recount some of their achievements. It should be remembered that Virginia was essentially rural. While there were villages like Williamsburg, Richmond, Norfolk, Staunton, Fredericksburg, Alexandria, Tappahannock, and Port Royal, the people lived by preference in the country, and behaved like countrymen. The doctors were isolated and had little opportunity to sharpen their wits by contact with other doctors. However, they had recourse to books. The county records show that the medical libraries of Virginians of the colonial period were surprisingly large and well chosen.[5] Such classical names as Fracastorius, Thomas Sydenham, Albrecht von Haller, William Cheselden, William Smellie, Walter Harris, John Huxham, John Friend, Thomas Willis, and William Harvey occur frequently. Celsus and Galen appear but rarely, but Hippocrates was still a popular authority. Other popular authors whose luster has somewhat faded, were John Astruc, Richard Wiseman, James Keill, Daniel Turner, Alexander Monroe, James Drake, Lorenz Heister, Samuel Tissot, and Nicholas Culpeper. Blanton gives the lists of several libraries, i.e., that of Colonel William Fleming, who practiced in Botetourt County; Dr. Kenneth McKenzie of Williamsburg; Dr. David Black of Blanford; Dr. Alexander Reade of Middlesex County, as well as the medical books of two laymen, William Byrd II, and Daniel Parke Custis.

The first research in Virginia was done by Lawrence Bohun, who came to Virginia in 1610 with Lord Delaware. He investigated the medicinal properties of sassafras and rhubarb. His stay in Virginia was short for his lordship had the scurvy and Bohun took him to the West Indies where he could have the benefit of fresh oranges and lemons.

One of the best known medical scientists of Colonial Virginia was John Mitchell. His contributions covered a wide range of subjects—botany, medicine, chemistry, physics, cartography, and agriculture. In 1774 he published "An account of the Yellow Fever which prevailed in Virginia in 1737, 1741, and 1742." His clinical description of the many patients that he saw and of the five autopsies that he performed, are remarkably accurate. A map that he published in 1755 was used at the peace conference at the end of the Revoluntionary War. In botany he described a number of new genera and Linneus named the partridge berry *mitchellia repens* in his honor.

John Clayton (1693-1773) of Gloucester County was one of the greatest botanists of America. His *Flora Virginica* is a magnificent work. It does not appear that he practiced medicine, although the title page of his book would indicate that he held a degree in medicine. He is frequently confused with John Clayton, the clergyman of Williamsburg who wrote a number of medical treatises.

Dr. William Brown (d.1792) of Alexandria is credited[5] with the first pharmacopeia in America. He succeeded Benjamin Rush as Surgeon-General of the Middle Department of the American Army. Because of the war, physicians had to rely almost entirely upon drugs that could be grown and prepared in this country. It was to meet this need that Brown wrote his pharmacopeia.

Shortly after this in 1786, John Leigh of King William County, while a student at Edinburgh, published an essay, "An Experimental Inquiry into the Properties of Opium", which won the Harveian Prize.

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This remarkable essay, based on experimental work in both animals and human beings, had all the qualities of a modern pharmacological monograph.

Alexander Somervail, who practiced in Essex County, was one of the first to recognize typhoid fever as a distinct disease.[7] In his article "On the Medical Topography and Diseases of a Section of Virginia" (1823) he called attention to certain differences in the epidemiology of malaria and typhoid fever. To prevent recurrences of the former he prescribed thirty grains of Peruvian bark two or three times in the forenoon of every second day until frost came.

Thomas Ewell (1785-1826) of Prince George County, who two years before he died published a popular "family physician", did some remarkable experiments upon gastric secretion while he was a student at the University of Pennsylvania. The results of these experiments were reported in his graduation thesis, "Notes on the Stomach and Its Secretion."

One of the most noteworthy contributors to medical literature was Robley Dunglison (1798-1869). He was professor at the University of Virginia for nine years. "Sir William Osler paid him a splendid tribute. In his farewell address at the dinner given to him on his departure for Oxford, Osler said, 'Thomas Jefferson did a good work when he imported him from London, as Dunglison had all the wisdom of his day combined with a colossal industry. He brought a great and well deserved reputation to Jefferson College. After all, there is no such literature as a dictionary and the twenty-three editions through which Dunglison passed is a splendid testimony to its usefulness. It was one of my standbys, and I still have an affection for the old editions of it which did such good service. . . . But the book of Dunglison, full of real joy to the student, was the "Physiology", not so much (for its) knowledge—that was all concentrated in Kirkes—but there were so many nice trimmings in the shape of good stories'."[9] Besides the "Dictionary" and "Physiology", Dunglison wrote an excellent little "History of Medicine," and several lesser known books. Another well known professor who worked for a while in Virginia was Brown-Sequard (1817-1894) who taught at the Medical College of Virginia in 1855, but he is too modern to come within the limits of my paper.

The greatest surgeon of early Virginia was easily William Baynham (1749-1814) of Essex County, a brother-in-law of Alexander Somervail, who has already been mentioned. He was the son of Dr. John Baynham of Caroline County. After serving an apprenticeship of five years under Dr. Thomas Walker, he studied at St. Thomas' Hospital, London, and became the greatest practical anatomist of his day. He returned to Virginia in 1785 after an absence of 16 years, and began practicing in Essex County. Here he established a national reputation, second only to Dr. Physick, the father of American surgery. He is known to anatomists as the discoverer and demonstrator of the vascularity of the *rete mucosum*, and to surgeons as the second to operate on an extra-uterine pregnancy. He was a master of the injection technique. His preparation of the female breast in the museum of Mr. Cline is said never to have been equaled.[4]

Baynham's description of his operation for abdominal pregnancy throws an interesting side light upon country surgery of the time. The patient consulted him 3 or 4 years after a missed labor. He made a diagnosis of extra-uterine conception and advised the patient that she would have to await a second labor when Nature would in some way or other rid her of her burden. Three and a half years later when the patient was seized with influenza which was then epidemic, the abdominal tumor became painful. After several months, as there was no improvement, it was evident that something must be done. He attempted to open the tumor but, after making an incision for 2 or 3 inches, he desisted, having neither books to consult (only one other case had been reported) nor medical friends to advise with. Ten months later it was evident that something must be done to save the woman's life. He determined at all hazards to extract the child. This time he was successful and the woman recovered.[11] Eight years later when a second case presented itself, he did not delay. He removed the fetus intact, but left the placenta, small pieces of which came away with each dressing. This patient also recovered.

About the time that this was going on in Eastern Virginia, Jessee Bennett across the mountains performed the first cesarean section in the United States.[12] The patient was his own wife, and he operated in desperation because she could not be delivered *per naturam viam* and no one else would deliver her through the abdomen. Not only did he

deliver the baby, who lived to be an old woman, but he removed both ovaries so as not to be again subjected to such an ordeal. Hugh Trout thinks that this operation must have had a profound influence upon Ephraim McDowell and his epoch-making operation. McDowell and Bennett were friends. Both had studied under Dr. Alexander Humphreys, and McDowell visited with Bennett upon his return from Edinburgh shortly after the cesarean section had been performed.

The last surgeon to be considered is perhaps the most dyed-in-the-wool country doctor of them all. Despite phenomenal successes, he remained incurably a countryman. At one time he was professor of surgery in Baltimore, but after two years gave it up to go back to his beloved Prince Edward County. John Peter Mettauer[13] (1787-1875) was the son of a French surgeon who came over with Lafayette's troops in the Revolution. He was born in Prince Edward County, studied at Hampden-Sydney College, and graduated in medicine at the University of Pennsylvania. Except during the war of 1812 when he was stationed in Norfolk and the two years that he was in Baltimore, he spent his long life in Prince Edward County, practicing medicine until the very end. He always had from forty-five to sixty surgical patients under his care.[14] The hotels of the neighboring villages and even private homes were filled with them. But he did not confine his work to surgery, as his extensive writings upon yellow fever, congestive fever, Asiatic cholera, continued fever, remittent and intermittent fever, and puerperal fever indicate. Besides, he had many private pupils, and in 1837 he organized these into the Prince Edward Medical Institute which in 1848 became the medical department of Randolph-Macon College. Just before the Civil War he built a hospital which was run in connection with the college. His achievements in surgery were truly remarkable. In 1827 he operated successfully for cleft palate, the first operation of the kind in Virginia and one of the first in the United States. He used lead sutures in the staphylorrhaphy, which he had learned from reading of Diffenbach's operation the previous year. His mastery of the technique of metallic sutures enabled him to cure vesico-vaginal fistula. He was one of the first surgeons in the world to successfully perform this operation and was actually the first to report any series of successful cases. He was also successful in repairing lacerated perineums, an operation that was rarely attempted in his day.

Writing of perineorrhaphy, Sir James Y. Simpson said:[15] "Operations for the relief of such cases were carried out by Guillemeau, and more recently by Roux, Noel, and others. In America, Mettauer operated successfully, using lead wire for his sutures; and a mass of cases scattered about in our surgical and gynecological records . . . sufficiently attest the value of the operation."

In his introductory address at Washington College in Baltimore, Mettauer stated that operations for malignant disease should be undertaken, in spite of adverse public opinion, if the judgment of the surgeon is that the patient may benefit. Many cures in such cases have been accomplished. The surgeon should be well grounded in morbid anatomy and should frequently refresh his knowledge of regional anatomy by dissecting and by studying good charts. Mettauer had a good clinical insight into shock, which he called "traumatic irritation". Although a pupil of Rush and Physick, he says that in this condition blood letting or any operation entailing the slightest loss of blood would be fatal.

If time permitted, I would have something to say about Virginia hospitals. The first hospital that was built in the English colonies was destroyed in the Indian massacre of 1622, when the whole town of Henricopolis was entirely wiped out. The first hospital for the insane (1773) is still operating at its original stand, as is the first Marine Hospital (1800). Virginia also has the distinction of being the first colony to make provision for the Negro insane.[7]

I would like also, time permitting, to discuss the Virginia doctors who made names for themselves in other fields, men like Dr. Thomas Walker, who besides being the first to trephine bone for suppurative myelitis, was the first white man to visit Kentucky. Among others were General Hugh Mercer, who lost his life at the battle of Princeton, Theophilus Bland, poet and soldier of the Revolution, and Dr. Arthur Lee, international lawyer and diplomat.

Summary

Necessity incident to frontier conditions obliterated all regulations and restrictions on the practice of medicine. Necessity likewise made the Virginia doc-

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tor intensely practical. The rural character of the people accentuated this trend. The country doctor was not given to theorizing but was a keen observer. The influence of the Indian was negligible (except for the destruction of the first hospital). Outside of surgery, original work took the form of botanical studies, the search for cures, and studies in digestion. The fact that there were no great teaching centers in Virginia is probably the reason why so many of these worthwhile observations received so little recognition.

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Improved Nerve Block Technique in Painless Childbirth.

An improvement of the nerve block technique in painless childbirth—which involves only one site of injection instead of the former two or four—is described in the February 10 *J.A.M.A.* Dr. Orlen J. Johnson of Bay City, Michigan, reports that he has used the new technique on 161 women, of whom 92 were becoming mothers for the first time.

With skilled injection, he explained, the patient complains of no discomfort. He added that no reactions from the procaine, a local anesthetic, or complications have been encountered and that there has been no greater discomfort or delay in the healing of the surgical incisions.

The most satisfying results, he reports, are obtained if the nerve block is made during the second stage of labor.

According to Dr. Johnson, the advantages of the nerve block method are:

(1) Greater cooperation of the patient and control of the baby's head as it advances through the birth canal; (2) less damage to the mother's tissues; (3) less surgical intervention on the part of the obstetrician; (4) no ill-effects on the baby from this type of anesthesia; (5) lessens chances of hemorrhage.

"The advent of 'painless childbirth' or, more appropriately, 'childbirth without fear' when coupled with other advances which have lowered mortality and morbidity can bring a new era in obstetrics," he said.

OCULAR TORTICOLLIS: REPORT OF A CASE*

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In 1875 Cuignet described ocular torticollis as a compensatory head tilting in cases of paralysis of one of the muscles controlling the vertical movements of the eye.

Professor Mann states that, "to diagnose true ocular torticollis, we have considered that the head tilt should be present at the time and should be practically lifelong: that the eye movements should be abnormal; that the vertical squint should be apparent with the head erect and that the patient should be binocular only with the head in the tilted position." The cases not fulfilling these criteria should be classed as head tilting associated with hyperphoria.

Ocular torticollis is much more frequently met with than the literature would imply—when we look for it, many cases are found in office practice. They vary in degree of disfigurement and, unless extreme, are frequently unnoticed by the patient.

Before operation. Head tilted to left shoulder. Chin elevated to right.

Before operation. Head forcibly straightened. Left hyperphoria and mild divergence.

After operation. Head not tilted. Hyperphoria corrected.

The British ophthalmologist J. Greine examined 9,500 recruits and found two cases due to spastic sternocleidomastoid muscle and sixteen cases of ocular torticollis.

Duane stated that all vertical imbalances are paretic in origin, but McCullough points out that following meningitis and brain lesions, in over-development of one muscle and with muscle insertion abnormalities, one might encounter a spasm or over-action of one of the vertical muscles.

*Read before the Medical Association of the Valley of Virginia at Harrisonburg, May 25, 1950.

By far the most common vertical imbalance is that due to paralysis of the superior oblique. This follows palsy of the trochlear nerve—Bielschowsky states that paralysis of the superior oblique occurs about half as frequently as the external rectus paresis.

Head Tilt: Bielschowsky states the following rule concerning vicarious rotation of the head. "The patient chooses the least inconvenient position of the head by which the paretic muscles are sufficiently relieved, so that binocular single vision can be obtained." In the case of superior oblique paresis, the position chosen is usually to the sound side.

When the head is tilted to one side, the eyes rotate about the visual axis, to the opposite side. This parallel rotary motion is performed by both inferior muscles of one eye (inf. rectus and oblique) and at the same time the superior muscles (super. rectus and oblique) of the other eye. If the muscles of each eye are equally strong, the combined action of the two pairs causes no deviation of the visual axis, for the antagonistic components of these muscles compensate or balance each other. A parallel rotary motion occurs therefore. If, however, one muscle of this group is weaker than another, there is deviation of the visual axis.

For example, suppose, in a case of right trochlear nerve palsy, the head is tilted to the left side. From this action vestibular stimulation goes to the muscles which cause parallel rotary motion to the right or opposite side. This movement is produced by the

inferior muscles of the right eye and the superior muscles of the left. Thus the motion is produced without calling upon the weak right superior oblique muscle and no deviation of the eyes need occur. If, however, the head is tilted to the paralytic side, the paretic superior oblique is called upon and, being weak, deviation occurs.

Diagnosis: Ocular torticollis depends upon binocular single vision; therefore, it increases with development of fusion.

Many cases of ocular torticollis have been diagnosed as due to spastic sternocleidomastoid muscle. Section of this muscle has not corrected the cases but has made them worse.

DIAGNOSTIC SIGNS	STERNOMASTOID CONTRACTION	OCULAR
1. Head tilt	Towards spastic neck muscle	To sound side of patient with paresis of ocular muscle not spastic
2. Sternomastoid muscle	Spastic and tense	Not spastic
3. Position of face	To side of tilt	Away from side of tilt
4. Head position	Unable to straighten head readily	Can straighten voluntarily.
5. Conjugate eye movements	Muscle balance	Paresis of vertical muscle
6. Facial asymmetry	May be marked	Slight or absent

Treatment: Prisms prescribed in glasses and orthoptics are seldom of much value. Surgery is a definite indication.

The choice of operation depends upon the muscle or muscles involved and whether we are dealing with a purely paretic muscle or a combination of a paretic muscle and spasm of its direct antagonist.

In the case of superior oblique muscle paresis, most observers have advocated recession of the opposite inferior rectus. If the deviation is not corrected, due to spasm of the inferior oblique of the same side, recession of this muscle may be done.

In recent years W. P. McGuire has described an operation for shortening of the paretic superior oblique. Timidity among ophthalmic surgeons is giving way to a recognition of the value of the McGuire modification of the Wheeler operation. It is rapidly becoming the procedure of choice in cases of genuine paresis of the superior oblique with marked tortion of the image and fixation with the sound eye.

Head tilting may occur in superior rectus paresis and is usually accompanied by congenital ptosis. The head position may be habitually tilted if the patient is thereby aided in obtaining binocular single vision. The head is tilted backward and turned to paretic side.

Paresis of the inferior rectus may occur but paralysis of the inferior oblique is extremely rare. These conditions seldom produce true ocular torticollis but, if present, the head tilt should be corrected by approach to the affected muscle. Care should be used in operation on the superior rectus, as ptosis may be produced.

CASE REPORT

Joanne Z., a 5-year old girl, was presented by her parents complaining of "wryneck."

Her family and past history were unimportant except that birth was difficult and by forceps delivery.

Her present illness dated from two years after birth when it became noticeable that there was a definite tilt of the head towards the left shoulder. This tilt may have been noticeable at times prior to this, but it was definite at 2 years of age. The face turns to her right very slightly and there is a slight elevation of the chin. This condition became more and more noticeable until her family physician was consulted. A diagnosis of spastic torticollis was made and patient referred to a pediatrician for consultation. The diagnosis of spastic torticollis could not be confirmed and the pediatrician referred her to an orthopedist. An operation on the sternocleidomastoid muscle was advised by this specialist but the parents were not entirely willing. Another orthopedist was consulted and requested an eye consultation. The oculist made a diagnosis of right hypertropia with head tilt to the left and surgery of the eye muscles was advised. The parents wishing to have the work done nearer home, consulted me on October 8, 1948.

Physical Examination: A well-developed girl, five years of age, and of bright, happy disposition, was presented at my office. Her head was tilted toward her left shoulder; the face was slightly turned to the right and chin slightly elevated.

There was no spasticity of the neck muscles and the head could readily be tilted towards the right shoulder both actively and passively. There was no

noticeable asymmetry of the face.

The teeth, nose, and throat and sinuses were essentially normal. The Chest: Normal.

Vertebral Column: There was slight deviation to the right of the upper thoracic vertebra.

Extremities: Normal.

The Eyes: There was no inflammation present.

The eyes were slightly divergent with the head tilted to the left. The right visual axis was higher than the left when the head was tilted to the right. There was no apparent limitation of the eye movements.

The exotropia measured 20° to the right and left for distance, and 16° for near.

The right hypertropia varied from time to time. There were 5° and 10° looking up and to the right and a like amount up and to the left. There were 10° to 12° on gazing down and to the right.

The right hypertropia was greatest on looking down and to the left—being 30°.

Fixation varied but was usually with right or paralytic eye in all directions.

The vision was 20/20 in the right and 20/25 in the left, and the refraction under mydriasis was plus 175 ds with plus 50 cylinder and axis 90 in each eye. The near point of convergence was 120 mm.

A diagnosis of partial paresis of right superior oblique with spasm of right inferior oblique with exotropia due to divergence excess was made. The left external rectus was thought to be weaker than the right. On February 4, 1949, a four mm. recession of each external rectus was done and at the same time the right inferior oblique was recessed freely. Recession of the left inferior rectus was considered a possible later necessity.

On subsequent examinations the head was straight and the vertical muscles balanced except for 2 degrees of hyperopia when extreme gaze was up and to right. No further surgery was necessary.

Conclusions

1. Ocular torticollis is more frequent than usually believed.
2. This entity is not a true wryneck, and no permament changes of neck muscles result from the long, continued, posture assumed.
3. Many cases are diagnosed as spastic and the neck muscles are operated upon without relief.
4. Correction of the vertical ocular muscle deviation results in correction of the neck deformity.

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Emergency Doctor Call System Has Rapid Growth.

Medical societies in 329 communities have established night and emergency doctor call systems, according to a report by the Board of Trustees of the American Medical Association. A survey made in the summer of 1948 had shown only 60 such plans in operation.

"While these plans vary greatly according to the size of the community, they all have the same purpose—to guarantee that the people of the community can obtain a doctor at any time of the day or night, any day in the year," it was stated by Dr. Louis H. Bauer of Hempstead, N. Y., chairman of the Board of Trustees.

"The systems are so efficient that even in New York County, which operates the largest emergency call system in the country, it requires no more than seven or eight minutes to have a doctor on his way to answer a call."

Dr. Bauer added that the board "urges all county medical societies that have not yet established a formal plan for answering night and emergency calls make that a completed project during the coming year."

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EXPERIENCES WITH NEW TYPES OF INSULIN*

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The incidence of diabetes mellitus in the United States today is approximately one million.[1] In addition, the results of recent Diabetes Detection Surveys at Oxford, Massachusetts, and elsewhere[2] suggest another million unrecognized cases. Therefore, the problems of management become more and more important. In view of these facts, we feel that a review of the various types of insulins, plus a consideration of some of the newer combinations with which we have had experience for the past eight years might be timely.

Since amorphous insulin was first discovered in 1922 by Banting and Best[3] there have been several noteworthy advancements in the modification of this type of insulin. Amorphous insulin has become purified, zinc[4] has been added and this product is now available as regular crystalline insulin.[5] Regular and crystalline zinc insulins have their use mainly in the control of emergency situations such as diabetic acidosis, covering certain amounts of carbohydrates in infusion, during or following operations when dietary intake has been altered to a considerable degree, and occasionally in insulin allergy when a purer type of insulin is necessary. It affects the blood sugar within the first hour after injection and the peak of action is from three to six hours. There is, therefore, a strong initial activity which wanes and has completely disappeared in about eight to twelve hours.

In 1936, Hagedorn and co-workers[6] were experimenting with various combinations of regular insulins and protamines in an effort to prolong the action of insulin. They found that insulin mixed with protamine, a protein derived from fish sperm, produced a "depot" type of insulin which released insulin from the combination over a long period of time and thus produced an effect on the blood sugar lasting longer than 24 hours in the fasting individual. Some influence can be demonstrated from 4 to 8 hours after the initial injection, its peak of action is from 20 to 32 hours, and its intensity of action is moderately weak. This type of insulin, which we know as protamine zinc insulin, proved to be very useful in the mild and moderately severe diabetics, some of whom had had to have many injections of regular insulin throughout the 24 hour period.

In the treatment of diabetes mellitus with insulin, there appear to be several disadvantages to the use of regular and protamines zinc insulin. In some cases more than one daily injection is necessary. The problem of so-called "insulin paradox", or high or low levels of blood sugar in the same patient in short succession is encountered with large doses of protamine zinc insulin. Also, their action is not always correlated with the normal metabotic needs of the patient.

Because of the above deficiencies, further attempts have been made by investigators and clinicians to prolong the action of regular crystalline insulin and in one injection simulate the secretion of insulin in the normal individual.[7] The most successful efforts have resulted in globin zinc insulin[8] and various modifications and extemporaneous mixtures of regular and protamine zinc insulin.[9,10,11]

Let us consider why regular and protamine zinc insulin are capable of modification when mixed together. Protamine zinc insulin is a suspension of regular crystalline zinc insulin and protamine, with the latter in excess. When more regular insulin is added, there is created a modified protamine insulin which with a single injection produces a better control of the blood sugar than obtained by single injections of either regular or protamine zinc insulin. The most frequently used combination of this type consists of two parts of regular crystalline insulin mixed with one part of protamine zinc insulin, commonly referred to as 2:1 mixture. The onset of action on a blood sugar is detected in approximately 4 hours. The peak of action is from 10 to 14 hours and the intensity of action is intermediate between

*Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

regular and protamine zinc insulin. The difficulty associated with the use of this type of insulin is in the mixing, which has to be done either in an oversized bottle or by mixing a number of bottles at once, or using a syringe, each posing problems in that intelligence, aseptic technique and strict attention are necessary.[12]

Globin zinc insulin* is regular crystalline insulin combined with the heme-free portion of beef hemoglobin. It is also a "depot" type of insulin having a prolonged effect on the blood sugar. Its action on the blood sugar can be demonstrated 2 hours after injections, its peak of action is 8 hours and its intensity is intermediate between regular and 2:1 mixtures.

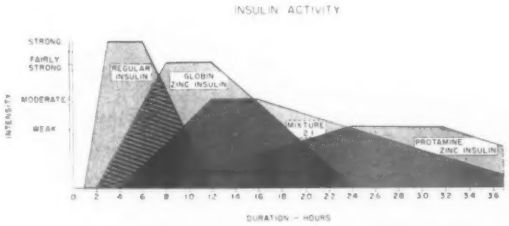

Diagram #1. The time action and intensity curves of regular, globin zinc, 2:1 mixture and protamine zinc insulin in the fasting individual.

Diagram No. 1 shows diagrammatically the time-action curves and intensities on the blood sugar following one injection of the insulins which we have discussed. It should be noted that this is in the fasting individual.

At the University of Virginia Hospital, newer types of insulin have been under investigation since 1943. This includes globin zinc insulin as well as various mixtures of regular and protamine. In addition, we have been able to study the clinical effects of the experimental NP-50** and NPH-50** type insulins.

NPH-50 insulin is a modified protamine zinc insulin with an effect upon the blood sugar similar to the 2:1 mixture. Its descriptive name is indicated that it is neutral ("N") in pH, contains 0.50 mgms. of protamine ("P") per 100 units of insulin and has been modified by Hagedorn ("H").[13,14,15,16]

The Diabetic Clinic of the University of Virginia Hospital has approximately 175 cases of all types of diabetes. Most of these patients are from rural area, have limited finances and often lack the intelligence necessary to follow a rigid dietary regime. However, we think that they represent a fair cross-section of the diabetic population encountered in a hospital serving largely a rural area. Furthermore, complications such as lability, peripheral neuritis, peripheral vascular disease, Kimmel-Stiel-Wilson's syndrone, coronary sclerosis, hypertension and chronic infections are frequent in this group. Many remain obese against repeated advice. We feel that it is significant that, in many instances, fair results have been obtained in spite of the above factors.

Diagram #2. Illustrates the age group and insulin requirements of the 21 cases reported.

We have selected 21 of the more severe cases of diabetics in whom we have used 2:1 mixtures, NPH-50 or globin zinc insulin.

Diagram No. 2 shows the age groups and insulin requirements of these patients. It is to be pointed

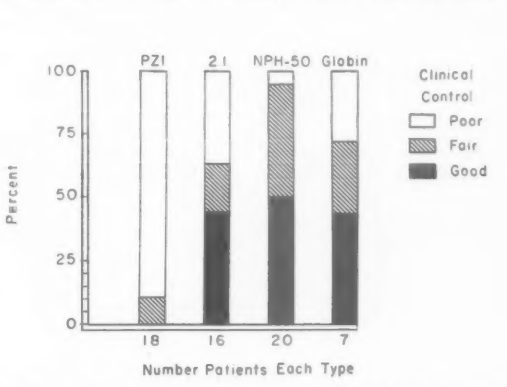

Diagram #3. Analysis of the clinical results obtained using protamine zinc, 2:1 mixture, NPH-50 and globin zinc insulin.

*Furnished by the courtesy of Dr. Donald Searle, of Burroughs, Wellcome and Company, Tuckahoe, N. Y.

**Furnished through the courtesy of Dr. Franklin B. Peck, of Eli Lily Company, Indianapolis, Ind.

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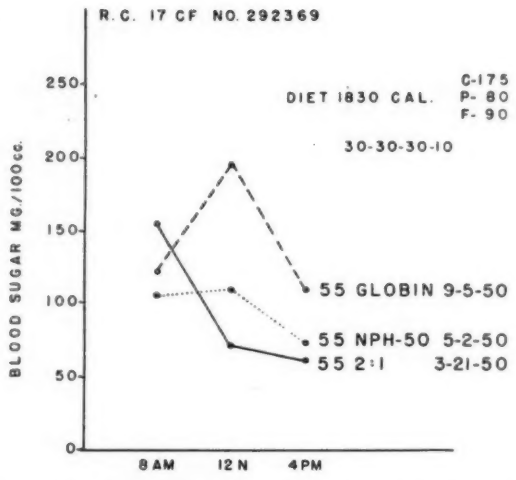

Chart #4. Blood sugar curves obtained on an uncomplicated diabetic who has been on equal doses of 2:1 mixture, NPH-50 and globin zinc insulin.

out that 13 of these cases require over 60 units of insulin daily and also 13 are 40 years or older.

Diagram No. 3 summarizes diagrammatically our clinical control with the patients on different insulins. It should be noted that for one reason or another, poor control was the rule when protamine zinc insulin was used alone, and good or fair control was not obtained until some modified insulin was used. In addition, the high incidence of lability or other complication should be noted.

From an analysis of these cases, it is apparent to us that clinical control can usually be obtained with 2:1, NPH-50 or globin zinc insulin in doses up to 60 units a day if there are no serious complications.

Chart No. 4 demonstrates the usual response in an uncomplicated patient who has been on similar doses of 2:1 mixture, globin zinc or NPH-50 insulin. Although there is some variation in the blood sugars as illustrated, we feel that good control is evidenced in this case. Chart No. 5 reveals excellent clinical control of the blood sugar in an older man on comparable doses of 2:1 mixture, Np-50 and NPH-50 insulin.

When the problem of complications are present or the total insulin requirement is greater than 60 units a day, the carry-over of the insulin effect, which is characteristic of NPH-50 and 2:1 mixture, is very

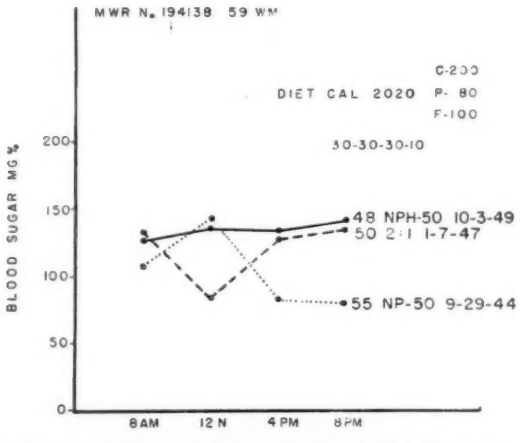

Chart #5. Illustrates the degree of control obtained with NPH-50 and 2:1 mixture.

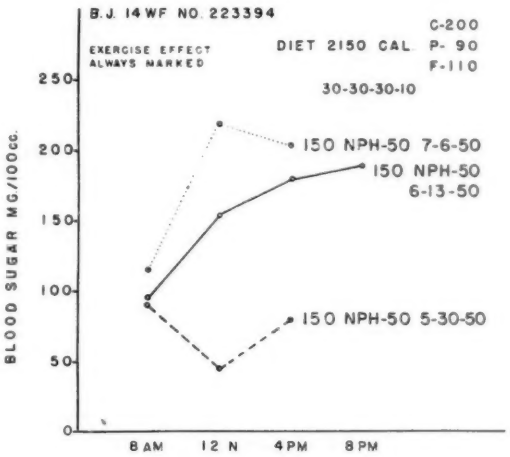

Chart #6. Curves obtained on a very labile diabetic who takes 150 units of NPH-50.

desirable. When lability is a particular factor, this carry-over effect is desirable regardless of insulin dosage. Chart No. 6 is indicative of the degree of control that can be obtained in a diabetic who is very labile and has marked exercise effect. The curve obtained on May 30, 1950, was obtained while the patient was undergoing her usual amount of physical activity.

This carry-over effect is frequently not sufficient in globin zinc insulin to give the necessary control of the blood sugar in cases which have complications; however, in individual cases we have used globin zinc insulin in doses up to 125 units a day with fair control.

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Summary

A discussion of the various blood sugar responses to regular, protamine zinc insulin, globin and 2:1 mixtures has been given. In addition, we have presented the clinical results of 21 cases from the University of Virginia Hospital, treated with 2:1, NPH-50 or globin zinc insulin.

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Discussion

Dr. William R. Jordan, Richmond: I am sorry we don't have all "medical" doctors in Virginia at this meeting to hear this paper because, with the new insulin NPH being put on the market, it probably will be the insulin most commonly used for routine care of diabetes.

Dr. Edwards has not only presented a factual paper but has presented as well the slides to show just what has happened to the patients he has treated. In consideration of any diabetic control we must keep in mind that blood sugar is extremely variable and that a curve we get one day with one treatment cannot be duplicated often on succeeding days or on a day in a following week. The emotional disturbances that afflict us all, the exercise which Dr. Edwards demonstrated on the chart, and other factors, bring the blood sugar down and will interfere with our getting consistent curves.

My results have not been quite as good as his with the use of NPH 50 insulin but it is certainly a better insulin than any that we have tried in the control of a patient with one dose of one kind of insulin. I think the combinations of protamine and crystalline work better in general, though the NPH insulin certainly will enable us to handle a number of those patients very satisfactorily without resorting to two kinds of insulin or any type of mixture. Certainly this is something worth our noting because it will be on the market, as he mentioned, within a few months—at any rate, as soon as they accumulate a sufficient supply or backlog, and it will be the insulin that probably we will start almost all of our new diabetics on, and it is worth our finding out how it works. It can be used in combination with the quick acting insulin and there will be a number of severe diabetics who will have to have both kinds of insulin. A mild diabetic can be controlled with almost any type of treatment and severe diabetics can be controlled with almost no type of treatment. Some of the diabetic children who have grown up to adult life after 12 to 20 years of diabetes supposedly have degenerated in spite of good control. I don't think I have ever seen the ordinary child diabetic well controlled. Day in and day out, year after year, he has much too vacillating a blood sugar level to ever speak of it as controlled.

Questions and Answers as addressed to Dr. Edwards and Dr. Jordan.

Q. I would like to ask both of these gentlemen if they have used any divided doses of NPH and if so in what manner and with what results?

Q. I would like to ask Dr. Edwards if he has ever given patients supplementary diet?

Dr. Edwards: In answer to the first question: we have not used divided doses of NPH-50. The reason is the type of patient we have. With patients whom we frequently do not see but once every two or three weeks, it is dangerous to confuse them with complicated instructions and we don't have any Social Service workers who can go get them.

In answer to Dr. St. George Tucker, the routine diet is distributed as follows: 30/30/30/10 per cent. As you can see, we use a bedtime feeding. The reason for this is that frequently a great many of our patients are on a protamine insulin and need this protection at night. However, it may be possible with NPH-50 to use a more regular distributive diet. Routinely with large doses of globin zinc insulin, the diet should be so constructed as to prevent delayed afternoon shock.

In closing, we wish to thank Dr. William Jordan for discussing this paper.

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THE COMPLICATIONS OF BRONCHIECTASIS

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The complications of bronchiectasis are often of a more serious nature than the disease itself. The physician so frequently sees a patient whose findings are such that they completely mask the underlying fundamental pathology in the lung. This leads to much confusion since these complications, when they exist in the thorax, are found in conditions other than bronchiectasis. The existence of a hydrothorax or pyothorax can mask a number of diseases which are responsible for such a condition. More often than not, when such a complication is relieved, an x-ray of the lung fields does not reveal enough detailed information to make a definite diagnosis. If the diagnosis of bronchiectasis could be made in patients prior to the onset of complications, these people could be saved incalculable days of sickness, misery, hospitalization and expense. The vital strain on their physical resources would be unnecessary. Life itself would, in many instances, not be put in jeopardy. An early diagnosis of bronchiectasis depends largely upon a high index of suspicion on the part of the physician. A scout film of the chest does not rule in or rule out bronchiectasis. It is with a few exceptions, at the most, suggestive only. The burden of proof rests squarely on the shoulders of the examining physician and is not to be shifted to those of the roentgenologist. Many a case of bronchiectasis has been tagged with the diagnosis of "a little pneumonia" and has been "cured" only to go on at a later date to recurrent episodes of "pneumonia" or to more serious complications which cause the patient much grief. It is not the fulminant bronchiectatic patient which eludes us. It is the incipient one who perhaps has "just a little" cough, and who has lived with his cough for such a time that he minimizes it to the questioning physician.

Bronchiectasis is now considered to be second in frequency to pulmonary tuberculosis in chronic lung diseases.[1,8,9] Many cases exist without disability of any kind. Not infrequently members of our armed services were found to have bronchiectasis after they had successfully completed the rigorous training prescribed.[1,2] However, there are all gradations of bronchiectasis and the more severe the pathology, the greater the incidence of complications.[3] In 400 cases of proven bronchiectasis at the Massachusetts General Hospital over a twelve year period, almost half (42 per cent) of the cases were found to have started in the first decade. Of those whose onset was in the first decade, only 9.4 per cent reached the age of 40. In a mortality rate compiled in non-surgically treated cases, 78 per cent of the dead died directly from bronchiectasis or its complications.[3]

Pneumonitis: It is to be expected that the majority of the complicating pathology will be intrathoracic.[4] Perry and King[3] found 24 per cent of their cases had recurrent attacks of atypical pneumonia. Recurrent attacks of pneumonitis associated with bronchiectasis are frequently interpreted as pneumonia or atypical pneumonia.[11] Ogilvie in a study of 68 bronchiectatics reported 36.8 per cent had atypical pneumonia.[10] It is not surprising that such basic pathology could initiate such response by the surrounding lung tissue under favorable circumstances. Stagnation of secretions forms a splendid culture medium for a multiplicity of pus-forming organisms.[1] Add to this the inability of the affected bronchus to rid itself of this accumulation, plus the ever present possibility of proximal blockage[5,6] and it is little wonder that the most common complication of bronchiectasis is an adjacent pneumonitis. It may be local and limited to the adjacent bronchi. However, acute bronchopneumonia may result from aspiration of the infected material or by direct extension.

Repeated Upper Respiratory Infections: Bronchiectatic patients are prone to develop repeated "colds" and upper respiratory infections. Once developed, the coryza frequently progresses to a "chest cold" which usually does not clear up within the generally accepted limits, but lingers as a cough, sometimes with low grade intermittent fever and a feeling of malaise. Too often these "minor" complaints are not given the consideration which they merit from the aspect of accurate diagnosis. A high index of suspicion on the part of the physician would help establish the presence or absence of ectatic pulmonary lesions, thereby in many instances giving the

patient the benefit of a positive diagnosis where bronchiectasis is present, so that treatment may be applied as a prophylactic or therapeutic measure.

Empyema: This complication was found to exist in 3.5 per cent of one series.[3] A bronchiectatic cavity adjacent to the pleura sets up a pleuritis and may easily rupture into the pleural cavity, thereby causing an empyema which may be general or localized. Less frequently a pyopneumothorax develops. In developing a pleural infection, the patient has entered into one of the more serious phases associated with bronchiectasis. He has been in the past subjected to repeated thoracenteses, drainages, and rib resections. Cavities continue to drain for long periods, close, only to require additional drainage. When the initiating locus is still functioning there develops a bronchopleural fistula. When a lesion thus formed becomes connected to the external surface of the body, either by spontaneous rupture or operative measures, a bronchopleurocutaneous fistula results. Such lesions are slow to heal and are debilitating to the patient. Such a patient presents quite a difficult problem in that by this time he is so depleted that definitive therapy cannot as a rule be utilized to bring about a cure of the underlying bronchiectatic disease.

Lung Abscess: A large spread of an infection from a bronchiectatic sac to lung tissue causes a severe reaction to be set up which can develop into a lung abscess.[3] In advanced stages, the bronchiectatic lung may contain multiple abscesses.[1] Interpretation of x-rays is handicapped if knowledge of the underlying pathology is not available.

Brain Abscess:[7] This occurs in about 2 per cent of bronchiectatics. The most frequent site is the right frontal lobe. An associated meningitis is not uncommon.[3]

Evans in 1931 reported 194 cases of intracranial suppuration of which 46 were metastatic abscesses. Twenty-two of the 46 followed a thoracic focus and 17 of these were diagnosed as bronchiectasis.[13] Charrier and Ferradou, in reviewing 260 cases of intracerebral abscesses in 1936, found 133 followed bronchiectasis, 55 empyema and 30 lung abscess.[13] The decrease in incidence of metastatic abscesses following pulmonary disease has in all probability been due to the prevalent usage of antibiotics.

Other Metastatic Abscesses: I have seen one instance of a large psoas abscess in a case of far advanced bronchiectasis.

Cor Pulmonale: When ectatic involvement of the lung is extensive, there is interference with the pulmonary circulation and failure of the right side of the heart appears. Perry and King report 9 deaths in a series of 400 cases of bronchiectasis due to right-sided heart failure, and in all cases the disease was extensive.[3]

Myocarditis: Saphir,[12] in a study of autopsies performed on 152 patients which were found to have bronchiectasis, reports that eight cases had an associated myocarditis as established by microscopic examination. However, the clinical diagnosis was made in only one case. Three of these died a sudden death. There was no cause found for the myocarditis other than the associated bronchiectasis.

Amyloid Disease: This occasionally occurs as it does in prolonged chronic suppurative diseases.

Psychologic Manifestations: Not to be omitted are the personality changes which are wrought as a result of foul breath and chronic cough with expectoration of foul smelling sputum. Especially in young people is this inclined to have its greatest effect. They feel that they are being shunned by their associates, which often times is true. Perry and King cite two cases of suicide in a series of 400 cases.

The following case report is interesting in that this man developed the majority of the complications of his disease, namely pneumonitis, empyema, bronchopleurocutaneous fistula, brain abscess and meningitis.

Case Report

C. E. G., age 64, white, gave a history of productive cough beginning in February, 1949, following which he had an x-ray of the chest that revealed "bronchopneumonia" and was treated for such. X-rays taken apparently at a later date revealed "increased bronchial markings". He was admitted to a hospital in another city as a welfare patient and found to have several pockets of encapsulated foul-smelling pus which were drained by rib resection on several occasions. One pocket was anterior and through this opening it was thought he developed a bronchopleurocutaneous fistula which existed until the time of resection. It was the opinion of the attending physicians that he also had a severe fibrothorax and needed further surgical intervention.

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Accordingly, in June, 1949, he was transferred to a hospital in another city, where, as a patient on the surgical service, he developed a brain abscess and meningitis for which he was successfully treated and discharged on July 30, 1949.

He was subsequently entered into a convalescent hospital where I saw him for the first time in February, 1950. The constant drainage from his anterior wound required him to wear a dressing constantly. At times, on coughing, air could be detected coming from the sinus. He was coughing up about a glassful of purulent sputum daily, which occasionally was foul-smelling. The patient was quite anxious to be rid of his chronically draining sinus. In addition he was quite miserable because of his foul sputum which he described as "it stinks". Overall appraisal indicated that the patient could probably undergo operation. Accordingly, he was admitted to a local hospital for surgery. Bronchoscopy was performed and bronchograms were made showing advanced bronchiectasis in the left lower lobe and lingula, which were resected. The patient was discharged from the hospital on the sixteenth postoperative day, healed and able to perform his necessary duties.

SUMMARY

Bronchiectasis is the second most common chronic lung disease. Frequently the complication is seen as a therapeutic problem before the underlying pathology is suspected. Complications are largely responsible for the high mortality seen in untreated cases. A high index of suspicion on the part of all physicians would save bronchiectatic patients many days of misery and suffering.

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Find Estrogen Therapy Aids Acne Sufferers.

Treatment of some forms of acne with estrogens (female sex hormones) continues to give promising results, reports Dr. Irving Shapiro of Newark in the February *Archives of Dermatology and Syphilology.*

Dr. Shapiro, who made his preliminary study in March 1949, found remission of the disease in 60 per cent of his newest group of 25 patients. The estrogenic substance, in the form of a cream, is obtainable only on a doctor's prescription and is not to be confused with hormone creams sold over the counter.

"In 15 patients the results were excellent," he reported, adding that results were good in four cases, fair in three and that three of the patients could not tolerate the cream because of itching, flare-ups and cosmetic disagreeableness.

Ten of Dr. Shapiro's patients were men and 15 were women. Their ages ranged from 17 to 30 years. All patients at the beginning of treatment had the usual signs of an adolescent type of acne—oiliness, pimples and blackheads. The usual methods of treatment, including x-ray and ultraviolet ray treatment and dietary controls, which have been found to be successful in 80 per cent of common acne cases, had been tried without success on this group of patients, Dr. Shapiro said.

The cream was applied to locally affected areas once daily or divided into morning and evening applications. The men used it as after-shave cream and the women as a powder base.

Dr. Shapiro describes this method as "a promising new therapeutic approach to resistant acne vulgaris."

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CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals.

Harry Walker, M.D., *Editor*
William Kay, M.D., *Associate Editor*

Case No.: B-68930

A 48 year old colored male was admitted to St. Philip Hospital because of marked dyspnea, hemoptysis and persistent edema. The patient had apparently been in good health until about six months before admission when he consulted a physician because of "indigestion". He was given some heart pills, but his condition did not improve and a month later he noted swelling of his ankles and abdomen. Approximately two months later he began to have rather marked dyspnea and consulted another physician.

Examination at this time (4 months before admission) revealed the following: Marked dyspnea, edema of the legs up to the knees, enlarged liver, ascites, dullness and rales in both lung bases, cardiac enlargement with the left border in the anterior axillary line and the right border 2½ cm. to the right of the sternum; a to-and-fro murmur over the entire precordium, pulse 100, blood pressure 240/100. He was given 0.2 mgm. of digoxin i.v. and 0.2 mgm. orally three times a day for two days, then a maintenance dose of 0.2 mgm. daily; intramuscular salyrgan-theophylline every other day for three doses; theobarb tablets, one twice a day; and a salt free diet with water as desired. Some improvement was noted on this regime initially, but the edema and dyspnea began to persist in spite of treatment.

On the night before admission the patient was seen again by his physician who found him "extremely dyspneic," coughing and expectorating large quantities of frothy amber fluid, complaining of slight pain over the precordium, with marked edema, rapid pulse and a blood pressure of 150/0. The physician administered 0.3 cc. of adrenalin, 0.75 mgm. of digoxin, 2 cc. of salyrgan-theophylline intramuscularly, morphine .016 mgm. and atropine .0004 mgm. The following morning the patient had not improved and his sputum was blood-tinged. He was then referred to the hospital.

The past history was essentially negative except for a history of syphilis 22 years earlier, inadequately treated.

On admission to the hospital the rectal temperature was 100° F., pulse 78, respirations 24, and blood pressure 150/0. The patient was well developed, well nourished, markedly dyspneic and orthopneic. He was coughing frequently and producing large quantities of frothy, blood-tinged, sputum. There was ptosis of both upper eyelids; the right pupil was irregular and did not react to light. There were opacities in both corneas obscuring the fundi. The neck veins were distended with the patient in a sitting position and there were visible venous pulsations. There were numerous rales throughout both lung fields with dullness and diminished breath sounds and diminished fremitus over the right lower chest posteriorly. The apex impulse was in the 5th and 6th left intercostal spaces in the anterior axillary line and the right border of cardiac dullness extended 2.5 cm. to the right of the sternum. There was a palpable thrill over the base of the heart and a harsh to-and-fro murmur was heard over the entire precordium, loudest at the base. One observer detected a possible pericardial friction rub in the third left intercostal space just to the left of the sternum. There were frequent extrasystoles. There was marked edema of the lower extremities extending up to and involving the genitalia and lower abdominal wall. The liver was palpable three inches below the right costal margin and there was moderate ascites. The deep and superficial reflexes were normal. No pathologic reflexes were noted.

Laboratory data: Urinalysis, specific gravity 1.020, albumin 1+ and otherwise negative. RBC 4,200,000, hemoglobin 13.6 grams, WBC 10,000, 72 polys., 1 eosin, and 27 lymphs. CO_2 48.5 vol. % (22 mEq/liter), NPN 40 mgm.%, sugar 102 mgm.%, serum chlorides under oil 538 mgm.% (92 mEq/liter), prothrombin time 19 sec., control 15 sec., concentration 43%. The serology was posi-

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tive in a titer of 1-128. An x-ray of the chest showed "moderate enlargement of the heart—cardiothoracic ratio 55%,—aortic arch 8.5 cm.—arteriosclerotic aortic know—pleural effusion on the right to the 9th rib level posteriorly". An electrocardiogram showed a rate of 110, a P.R. interval of 0.12 and a Q.S. of 0.08, inverted T waves in Leads I, II, V_4 and V_5.

Shortly after admission thoracentesis of the right pleural cavity yielded 125 cc. of serosanguineous fluid which contained 1.0 gram% protein, 1,040 cells with 37 polys., 29 lymphs and 34 endothelials. The patient was given oxygen first by nasal catheter, later by tent, intravenous salyrgan daily, digitoxin 0.2 mgm. daily, crysticillin, 1 cc. every 12 hours, and luminal and chloral hydrate for sedation and a salt free diet.

The patient appeared to improve somewhat with oxygen and thoracentensis, which was repeated twice during the patient's hospital stay, 750 cc. of similar fluid being obtained at the second and 325 cc. at the third aspiration. He remained essentially afebrile with the pulse ranging around 100 per minute and respirations approximately 25-30 per minute. The blood pressure varied from 150-200 systolic and 0-50 diastolic. The intake and output was charted as follows: Second hospital day intake 900 cc., urine 2,375 cc.; fourth hospital day intake 2,800 cc., urine 1,200 cc. His general condition gradually became worse and the patient expired on the eighth hospital day.

Additional laboratory studies: One blood culture was negative. Repeated smears and cultures of the sputum and pleural fluid were negative for organisms of pathologic significance, including acid fast bacilli. One day following admission the serum sodium was 132 mEq/liter and the serum potassium 3.9 mEq/liter. The serum calcium on the same day was 14.5 mgm.%.

DISCUSSION BY DR. ARMISTEAD WILLIAMS*

This case, which at first glance may seem to be a rather simple one of congestive failure from syphilitic aortic valvular disease, is actually one in which all of the possible eventualities of syphilitic cardiovascular disease must be considered regardless of their rarity. There are several reasons for this. First, the murmur is described as being to-and-fro, a phase which, though often used in the texts, from that of Sir Thomas Lewis to those of the present day, allows entirely too great a latitude in imagination. Such a description could mean that there is but a single murmur, that is, a continuous one.

Though it is certainly not stated, it could imply that there is a systolic and a diastolic murmur, both having the same pitch or character. Obviously, the difference in underlying pathology would be immense.

Another reason for considering the obscure possibilities is that though one naturally expects syphilitic aortic diseases to result eventually in signs and symptoms of left-sided failure, this man during the first three months of his illness had classical findings of right ventricular failure. His initial complaint was of indigestion suggestive of liver engorgement, then ankle edema and ascites. We do not expect to find ascites of any appreciable degree in disorders of the left ventricle until after a rather marked siege of dyspnea. Also, we would expect failure from left ventricular disorders to show at least some degree of remission under treatment.

Amongst nonsyphilitic possibilities we might first consider myocarditis in addition to aortic insufficiency. We are now recognizing such a diagnosis with greater and greater frequency, and during the war quite a large group of patients with this disorder was reported. These patients primarily show evidence of total heart failure with edema and hepatomegaly without obvious reason, or rather obvious etiology, and the heart examination often shows only a gallop rhythm and enlargement. Such are the findings, for instance, in a young person with rheumatic fever. In them an enlarged liver may be the most important guide to active rheumatic carditis. The murmurs heard are by no means characteristic and one may only hear a grade 2 systolic murmur over the precordium. Aside from rheumatic fever, myocarditis may be caused by a virus infection, drug sensitivity, and in rare instances by syphilis itself. In general, the course of myocarditis is down hill without notable response to the usual medication. I would not accept it as a diagnosis in this case primarily because it is a diagnosis of exclusion, and dyspnea is almost always present to some extent from the start. There are some patients with predominant signs of right-sided failure who complain that exertion causes a marked sensation of fullness in the right upper quadrant apparently from liver engorge-

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ment, but there is still usually some degree of true dyspnea.

The picture of constrictive pericarditis is quite similar to that presented by this man during the first three months of his illness, that is, the gradual onset of more or less silent edema and ascites with relatively little dyspnea. The dyspnea may become progressively worse, but I would not expect the disorder to result finally in the degree of dyspnea and orthopnea which this man had. Opposed to such a diagnosis also is the heart size which characteristically tends to be small. The pulse pressure is reduced, and we would like to see calcium deposits about the heart and a positive tuberculin test. Of course one would not expect any murmurs.

One of the most attractive possibilities in the patient with a story such as presented by this man is tricuspid disease, either insufficiency or stenosis. This is not a rare disorder, though it is infrequently diagnosed clinically. It is most often seen in severe rheumatic heart disease and is almost always accompanied by mitral stenosis. The signs of tricuspid insufficiency are marked edema and ascites, a large pulsating liver and distended neck veins. The pulsation of the neck veins is systolic in time in insufficiency and in tricuspid stenosis there is a presystolic pulsation from an hypertrophied right auricle. I shall say more about this disorder later.

Amongst the syphilitic lesions the most common is aortic insufficiency and dilatation of the aorta from destruction of the media resulting in loss of elasticity, the latter accounting for the frequently heard systolic murmur. As I have pointed out already, this pathology results in failure of the left ventricle, pulmonary engorgement, then failure of the right ventricle with development of edema and ascites. We see a great number of patients in the cardiac clinic with such a disorder and many present a considerable degree of edema, but all of those whom I have seen have had dyspnea as their chief discomfort. Also, in spite of the fact that once congestive failure occurs in these patients, the life expectancy is reduced to from six months to two years, almost all will show at least brief periods of remission in their symptoms. Furthermore, the murmurs of aortic insufficiency with aortitis are usually not so loud as to cause a thrill, but we do occasionally run across a patient with quite loud murmurs accompanied by a thrill and who at post mortem shows no complicating disorders.

There are several rare complications of luetic aortic disease such as a ruptured leaflet, subacute bacterial endocarditis, and an everted cusp. However, these would tend only to exaggerate the above symptoms and signs. A gumma is a possibility which I would only mention since it would be extremely hard for me to place it just right.

Finally, there are two disorders which I would like to go into in some detail. The first of these is rupture of the aortic aneurysm into the pulmonary artery which was so well described by Dr. W. B. Porter in the 1942 Volume of the *American Heart Journal*. He collected three cases of this disorder from the wards of the Medical College of Virginia Hospital and in one was able to establish the diagnosis ante mortem. In this condition there is a loud continuous murmur in the third interspace just to the left of the sternum slightly below the area of maximal intensity of the murmur of a patent ductus. One would expect the systolic element of this murmur to be considerably accentuated. In addition, there would be no Austin Flint murmur since the regurgitant blood would flow into the pulmonary artery rather than the left ventricle where it would come in contact with the mitral valve. Of some importance would be the direction of the blood flow into the pulmonary artery. If the stream were directed peripherally there would be engorgement of the pulmonary circuit even though that circuit is remarkably expansile. Dyspnea and orthopnea would then be severe. If, however, the stream were directed towards the right ventricle, it is conceivable that right ventricular failure would result from the high head of pressure acting against the flow of blood through the pulmonary valves. The clinical course as expected from the cases reported would be remarkable first in the abrupt onset with severe dyspnea with or without severe substernal pain. The patient then would follow a relentless down hill course with severe dyspnea and evidence of right-sided failure.

The other possibility which I would like to consider is an aneurysm of the sinus of valsalva. As you know, there are three such sinuses, one behind each of the aortic cusps and aneurysms arising therefrom may be of congenital origin or more commonly syphilitic. These aneurysms are somewhat more frequent in the right sinus and, being primarily intracardiac, may take one of several courses, that is,

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they may rupture into the right atrium, the right ventricle, the pericardium, the pulmonary artery, externally, or may cause death by burrowing down the interventricular septum to cause complete heart block. I would like to propose the possibility of an aneurysm arising from the right sinus valsalva descending into the right ventricle where it would distort the tricuspid valve, causing either stenosis or insufficiency. Such an aneurysm as this is nicely illustrated in Dr. Taussig's text on congenital heart disease. We then would expect the signs and symptoms of tricuspid disease that I have mentioned before, marked edema, hepatomegaly and ascites. Finally, rupture into the right ventricle would account for the final three months of dyspnea and orthopnea. The murmur heard would again be a loud continuous murmur with preponderance of the systolic component. The blood pressure findings both here and in rupture of the aneurysm into the pulmonary artery would be similar to those in the case at hand, that is, diastolic collapse of the peripheral arteries. The X-ray picture in both instances would show marked congestion of the lung fields with enlargement of the right side of the heart.

The final episode consisting primarily of hemoptysis in addition to the dyspnea could quite well be on the basis of congestive failure alone with pulmonary engorgement. However, the serosanguineous fluid is disturbing and I do not believe would result from simple failure. Tuberculosis of the lung and pleura is the most common cause of such a pleural effusion, but we have no other reason to suspect tuberculosis except the purulent sputum which I suppose could have been tuberculosis or perhaps pneumonia. A pulmonary infarct would be a more consistent possibility and it often results in a blood tinged pleural fluid. It is difficult to account for the report of one gram of protein per cent in the pleural fluid especially in view of the cellular content.

In so far as treatment is concerned the dosage of digoxin given initially is on the light side, but we cannot be certain of just what heart preparation was being taken already. On the day prior to admission, the treatment was rather heroic and indicates the severity of the patient's illness. He was given adrenalin, salyrgan, morphine and digoxin. I do not believe that adrenalin should be used here. Perhaps it was life saving for the moment, but generally such patients do much better if given morphine and are allowed to become quiet. If the patient is already digitalized, it might be well, in addition to morphine, to give 10 cc. of aminophylline intravenously over ten to fifteen minutes, for it will help to keep one out of mischief and at the same time satisfy the family that everything is being done that is necessary. After admission, the patient was given penicillin presumably because of his purulent sputum, but in a patient with luetic aortic disease in failure, we should have good indication for the use of penicillin because of the ever present danger of causing a therapeutic paradox. Salyrgan was given as urged by Dr. Gold, but I wonder if many patients whom we feel need daily mercurials aren't in a hopeless state anyway.

In summarizing, there seems to be no happy medium in this case; that is, if I must venture a diagnosis, my choice seems to lie between the run-of-the mine diagnosis of aortic insufficiency with dilatation of the aorta, which on the basis of the data given is most unattractive, and the rare somewhat fanciful possibilities, such as rupture of an aneurysm into the pulmonary artery or aneurysm of the right sinus of valsalva distorting the tricuspid valve and rupturing into the right ventricle. I am unhappy about both of these because the signs either weren't there or were not fully described. However, if I must make a choice, I lean toward rupture of a valsalva aneurysm with rupture of the aneurysm into the pulmonary artery as second choice. The final episode I would attribute to the pulmonary infarction.

HOSPITAL DIAGNOSIS: Luetic aortitis with aneurysm rupturing in the pulmonary artery.

DR. WILLIAMS' DIAGNOSIS: (1) Rupture of aortic aneurysm (luetic) into pulmonary artery? (2) Rupture of valsalva aneurysm (luetic) into right ventricular?

PATHOLOGY REPORT: DR. THOMAS M. SCOTTI*

The heart weighed approximately 800 grams. The pericardium was adherent all over the heart and it was not possible to separate it from the myocardium without stripping off some of the underlying muscle. It measured from 0.1 to 0.8 cm. in thickness. The thickest portions were hard and felt as if partially calcified. There appeared to be no constriction of the major vessels by the adherent pericardium. The life ventricle was hypertrophied measuring up to 1.8

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cm. in thickness and its mural endocardium was hyalinized. The endocardium of both atria was thick and hyalinized. The mitral valve was only slightly thickened but not distorted. There was slight thickening of the aortic valve leaflets. The commissure between the left and right leaflets showed 1.2 cm. separation. There was minimal separation between the left valve cusp and the posterior one. The aortic ring measured 9 cm. in circumference.

The aorta itself showed considerable scarring and puckering of the intima along with pearly white and yellow plaques. There were two small sacculations, about 5 mm. in depth, above the right cusp. The coronary artery orifices, particularly the right, were impinged upon somewhat by pearly white plaques. There was a saccular aneurysm, 1 cm. above the left aortic valve leaflet, just above the sinus of valsalva. The orifice was 2 cm. in diameter and the depth of the aneurysm, 4 cm. It bulged against the left atrium and the portion of the latter in contact with the aneurysm was soft, necrotic and mottled, reddish-brown. In the upper portion of this area there was an irregular tear, measuring 0.4 x 0.7 cm. producing a fistula between the left atrium and the aortic aneurysm. In the lumen of the aneurysm there was a lamellated thrombus. The coronary arteries and abdominal aorta showed a few atheromatous plaques.

Histologically the thoracic aorta showed chronic aortitis consistent with luetic type. Section of the pericardium revealed organized, fibrinous pericarditis and the cause was not determined.

The lungs disclosed extensive bilateral bronchopneumonia (left weighed 1,130 gms., right, 1,410 gms.). There was a large hemorrhagic infarct of the right lower lobe. The right pleural cavity contained 1,200 cc. of blood tinged fluid.

Other findings were: Chronic passive congestion of the liver, edema of both legs and a 2 cm. round scar on dorsum of the glans penis.

Anatomic Diagnosis:

1. Aneurysm (luetic) of ascending aorta (just above left sinus of valsalva) with rupture into left atrium.
2. Chronic, adhesive pericarditis.
3. Bilateral bronchopneumonia.
4. Hemorrhagic infarct of lung, right lower lobe.
5. Chronic passive congestion of liver.
6. Edema of both legs.

Chloramphenicol to Treat Intestinal Infection.

Chloramphenicol, an antibiotic, is being used with some success by two New York doctors in the management of Salmonella infection, an acute intestinal infection, according to an article in the March 17 *J.A.M.A.* Drs. H. A. Weiner of Staten Island and John B. Liebler of Brooklyn report that although the antibiotic does not cure the infection, it does have a preventive or arresting effect on the growth of the bacteria, thus permitting the body to muster defenses against the infection.

The complex group of bacteria causing the infection are about 200 in number, the doctors said, pointing out that one or more types of Salmonella bacteria may be present in any one particular infection. The authors say that all of the 200 different strains are potentially dangerous to both human beings and animals. Age, resistance of the patient and to some extent the specific strain of bacteria determine the nature of the individual infection.

Distribution of Salmonella infection is known to be world wide. Some persons, while not afflicted with acute manifestation of the disease, harbor the germs in their bodies and act as carriers or distributors of the infection, it was pointed out. In addition, over 40 animals, including fowl and lower mammals, have been found to carry the organisms. The doctors said the greatest reservoirs of infection in the United States are fowl and swine and that the bacteria have frequently been found in water, sewage, eggs, egg powder and a wide variety of food products.

XUM

PUBLIC HEALTH

L. J. ROPER, M.D.
State Health Commissioner.

The Physician and Industrial Hygiene

The services of the Bureau of Industrial Hygiene of the State Department of Health should be of particular interest to both full-time industrial physicians serving the larger manufacturers and also to private practitioners. Since its inception in 1936, the Bureau of Industrial Hygiene has assisted physicians with matters directly or indirectly related to the health and welfare of the industrial worker. The natural implications of such a program give some clue as to the enormous coverage of subject material involved. Typical services afforded by the Bureau include evaluations of atmospheric concentrations and bodily absorption of industrial dusts, fumes and gases by chemical and physical laboratory tests, ventilation conditions and requirements, specific health hazards in plants (surveys) temperature, humidity, lighting, and plant sanitation conditions, over-crowding, physical examinations, medical and nursing services, workmen's compensation, hours of labor, mental health, and personal hygiene. A full complement of current industrial health literature is maintained and made available.

For the most part, the Bureau of Industrial Hygiene is concerned with the chemical and engineering applications to industrial health maintenance. The laboratory staff, for example, makes frequent analyses of biological materials to ascertain the degree of poisoning of exposed workers, of dusts to determine percentage of free silica and particle size, and of industrial solvents for individual constituents. Highly specialized instruments are available for use in air sampling and measurement, dust counting, toxic gas determination, radiation monitoring, noise-level estimation, and illumination measurement. The proper designing of local exhaust systems to control the evolution of toxic fumes, gases and vapors, is the responsibility of the industrial hygiene engineer.

A most promising development in recent years has been the realization on the part of physicians that the services of Industrial Hygiene can be directly utilized whenever the occupational disease case makes its appearance. The exact advantages to be gained by such collaboration have not always been too clearly defined in the past. For those general practitioners who have entered the field of industrial medicine, however, there is a deep conviction that the discovery and evaluation of etiological agents in diseases incident to occupations is greatly dependent on a knowledge of factors not ordinarily present with the usual infectious-type case of private practice. In the determination of causal relationship, for instance, a physician is required to:

(1) Obtain highly detailed information on the present occupation and past occupational history of the worker.

(2) Make a thorough investigation and evaluation of environmental conditions under which the employee operates, e.g., heat, cold, illumination, noise, moisture, and ventilation.

(3) Investigate and toxicologically evaluate materials employed or manufactured, e.g., dust, fumes, gases, and chemicals.

In general the responsible physician must obtain additional environmental information above and beyond basic clinical evidence in order to more closely define the composite origin and characteristics of many occupational diseases. The inclusion of chemical and engineering considerations in the establishment of etiology warrants serious study. A further argument in support of the need for additional knowledge of modern toxic agents and related histories of exposure is the fact that medical syndromes of most occupational diseases do not suggest definite relationships with any specific occupation. For example, the bladder cancers caused by B-Napthalamine and benzedine, the intermediate substances in the production of aniline dyes, differ in no way from epitheliomas of unknown etiology.[1] Cystoscopic and microscopic examinations show no differences between the two types. The only positive means for a differential diagnosis and establishment of causal relationship is by relating current symptomatology to past and present environmental conditions. Cases of carbon tetrachloride poisoning often present similar difficulties; the clinical evidence, e.g., nephrosis, toxic hepatitis, presents nothing which is pathognomonic of that solvent. Even with cases of "aplas-

tic anemia", so often encountered in industry, we still find diagnostic procedure and laboratory technique unable to differentiate between "aplastic anemias" of idiopathic origin, and "aplastic anemias" due to benzol poisoning. In all such similar instances the physician is obliged to leave his clinical findings and search elsewhere.

The most critical factor in the reduction of occupational disease, especially from the preventive medicine aspect, is the discovery of etiological factors involved, so that subsequent measures may be taken for their speedy removal. Effective evaluation and elimination of hazardous exposures in modern industry often involve detailed investigation into plant health conditions for concentrations of solvent vapors, metal fumes, dust and chemicals. The frequent need for supportive engineering and chemical knowledge, as they specifically relate to environmental health, becomes immediately apparent, whether the physician is in the process of differentiating between actual and alleged occupational disease, or is faced with the problem of making plant surveys to ascertain and remedy hazardous operations. It is likewise of equal importance that practicing physicians in Virginia be aware that the industrial health problems as here related, fall distinctly within the scope and interest of the industrial hygiene program.

Today, more than ever before, we find the industrialist awakening to the demands for employee health protection. The tendency is bound to continue and develop more fully. Medical and engineering means for the control of occupational disease is becoming ever more specialized and involved as the prolific advent of newer hazardous materials on the market continues. This throws a heavy responsibility on physicians, but it offers them also an unusual opportunity in preventive medicine. To the many practitioners who must meet this challenge, and for those interested in a more positively coordinated contribution to the improved physical health and welfare of the individual worker, the Bureau of Industrial Hygiene of the State Department of Health cordially extends an invitation to make use of its available services.

1. Mayers, M. R., Some Diagnostic Problems in Occupational Disease; New York State Department of Labor Monthly Review **25**, No. 12, July, 1946.

The Morbidity Report of the Bureau of Communicable Disease Control

	Feb. 1951	Feb. 1950	Jan.-Feb. 1951	Jan.-Feb. 1950
Brucellosis	2	4	11	6
Diarrhea and Dysentery	179	393	442	786
Diphtheria	18	22	32	45
Measles	941	157	1,483	280
Meningitis (Epidemic)	16	14	30	23
Poliomyelitis	3	3	11	9
Rocky Mountain Spotted Fever	0	0	0	0
Scarlet Fever	168	114	318	247
Tularemia	4	5	16	14
Typhoid and paratyphoid	3	5	13	11

New Books.

The following are some of the new books in the Tompkins-McCaw Library of the Medical College of Virginia, Richmond, and are available to our readers under usual library rules:

Army medical library—The pituitary-adreno-cortical function.

Association for research in nervous and mental diseases—Military neuropsychiatry.

Bean, ed.—Osler: aphorisms from his bedside teachings and writings.

Block & Bolling—The amino acid composition of proteins and foods. 2nd ed.

Bleuler—Dementia praecox, or the group of schizophrenias.

Christman—Pituitary-adrenal function.

Clendening lectures on history and philosophy of medicine. First series, parts I & II.

Fischer—Principles of general psychopathology.

Frear—Chemistry of insecticides, fungicides and herbicides. 2nd ed.

Gibson—Physician to the world. Life of Gen. William C. Gorgas.

Greenberg—Amino acids and proteins.

Josiah Macy, Jr. Foundation—Transactions 1st conference, 1949. Renal function.

Transactions 3rd conference, 1950. Blood clotting and allied problems.

Transactions 4th conference, 1949. Biological antioxidants.

Transactions 2nd conference, 1950. Metabolic interrelations.

Transactions special meeting, 1950. Suppl. II. Symposium on the healthy personality.

Kauffmann—The differentiation of escherichia and klebsiella types.

Lederle—Aureomycin; a review of the clinical literature.

Shattuck—Diseases of the tropics.

Sweet—Thoracic surgery.

XUM

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals.

Treatment of the Emotionally Disturbed Child*

The recent trend towards the very extensive use of the convulsive therapies and of surgical procedures in psychiatry has tended to divert medical interest from the role which psychotherapy fulfills, especially in the treatment of emotional disturbances of children.

Many years of trial and experimentation have brought the psychotherapeutic processes to their present stage of development. At the same time, a considerable amount of misunderstanding of psychotherapy has developed, both among the medical profession and among the laity. One error is the notion that it is a process which can be accomplished quickly. I know of no field of medicine in which results are achieved more slowly than in mental hygiene, with the possible exception of orthopedics. Human attitudes are built up over long periods of time. We cannot expect to change them at all rapidly. This is true even of children. A child of ten, for example, may often have maladjustments which have been building up during the entire ten years of his life. Moreover, those were the most critical years and the ones in which his personality was most malleable. A change in his motivations, mechanisms and attitudes from a poor adjustment to a good one cannot take place rapidly. It is often necessary for us to work with a case for periods of many months, and sometimes even years, before we can straighten out the difficulties caused by the much longer period of bad parental or other environmental influences.

In dealing with the maladjustments of a child we have two factors to consider. One is the child's personality; the other is his environment. When we speak of the environment we mean the persons who surround the children, and more especially the parents and other members of the family. In the child guidance center it has been found necessary to work both with a child and with his parents. This task is divided among different members of the staff because experience has shown that it is not possible for a single therapist to deal adequately with two members of the same family. Jealousies between the members of the family, feelings which are at the basis of the whole difficulty, are far too often increased rather than helped when they have to share the same therapist. The usual plan of organization, in which a child guidance clinic has a psychiatrist, a psychologist and psychiatric social workers on its professional staff makes this division of effort possible.

A second misunderstanding with regard to psychotherapy is the notion that it is an attempt to tell people (either children or parents) what to do. Such is certainly not the case. The first essential step in the process of treatment, after a good relationship has been developed with the therapist, consists of helping the individual who is being treated to understand himself or herself. In the case of an adult, this is brought about by allowing the patient to talk and eventually interpreting to him the meaning and significance of what he has said. We can never really give a person insight into his mental mechanisms; we can only help him to develop it for himself. The next step is to re-educate the patient to a better, and less neurotic, way of solving his or her problems. We are always trying to lead the person toward help and never to drive him there by our admonitions. Therapeutic work with the parents of a child may be carried on upon a simple level of helping them better to understand their children and giving information in regard to handling them. Much more frequently, however, we recognize that the difficulties with the child are a reflection of the parent's own problems, so that we must try to help him to reach an understanding and a solution of these problems in order that he may become a happier and better adjusted person, one who will be able to give to the child the love and security which is needed.

Psychotherapeutic work with children, especially with younger children, requires some modification of this scheme. The child does not use words in the way that an adult does. Instead of talking with the child one plays with him. It is through this medium

*The second article in a series concerning the emotionally disturbed child, prepared by Dr. Gilbert J. Rich, Psychiatrist-Director, Roanoke, Virginia, Guidance Center.

of play that the younger child expresses his feelings and works them out upon the therapist. Treatment of children, like that of their parents, is indirect in the sense that it is concerned with the deeper conflicts which cause emotional disturbance rather than with the superficial behavior which causes the referral of a child to a guidance clinic. This is merely an application of the modern medical principle that treatment should be directed toward correcting causative factors and not toward removing symptoms. The following of such a principle may often mean that the complaint for which a child is referred is never mentioned in the process of therapy, nor is that process directed primarily toward its removal. Least of all, is the child lectured or scolded about anything that he does either during the therapy period or outside.

Some children, of course, do not do well in this type of individual treatment. Some of them can be helped by group therapy. This is the newest development in the field of child guidance. It aims to utilize therapeutically the emotional forces and relationships that exist between children within a group who know each other quite well. The therapist sets the stage for the activity of the group, but actually plays a passive role and does not act as its leader.

The treatment of a child's emotional problems, whether it involves work with the child or with the parent or both, aims primarily to promote a normal and mentally healthy development of the life of the family, thereby acting as a preventive measure against the occurrence of emotional breakdown or frank mental illness.

BOOK ANNOUNCEMENTS

The Science of Health. By FLORENCE L. MEREDITH, B.Sc., M.D., Fellow of the American Medical, American Public Health, and American Psychiatric Associations. Second Edition. The Blakiston Company, Philadelphia. 1951. xiii-452 pages. Cloth. Price $3.75.

Paul Ehrlich. By MARTHA MARQUARDT. With an Introduction by Sir Henry Dale. Henry Schuman, New York. 1951. xx-255 pages. Cloth. Price $3.50.

Abstract of "The Audiology Clinic". Published in the "Acta Oto-Laryngologica" Supplementum LXXXIX.

"The Audiology Clinic" by Dr. Moe Bergman is published by the Acta Otolaryngologica. It is sponsored by The Audiology Foundation which is a Non-Profit Corporation, directed by able and well qualified men, most of whom are physicians representing many of the leading medical schools of the country.

This monograph contains suggestion of ways and means of solving the major problems of organizing an audiology clinic, in which the program of auditory rehabilitation includes a co-operative approach by experts from many different professional areas. It is intended as a guide for the handling of acoustically handicapped adults, giving what facilities are now available and where they are located.

It would be most useful to anyone who is interested in starting an audiology clinic in a large city or at a medical college. All necessary details are available here for study and consideration.

Copies of "The Audiology Clinic" may be obtained by writing The Audiology Foundation, 1104 South Wabash Avenue, Chicago 5, Illinois, price $1.00.

E. D. V.

XUM

MEDICAL SOCIETY OF VIRGINIA

Auditor's Report
October 1, 1949—September 30, 1950

THE OFFICERS AND COUNCILORS
MEDICAL SOCIETY OF VIRGINIA
RICHMOND, VIRGINIA
GENTLEMEN:

We have made an examination of the books of the MEDICAL SOCIETY OF VIRGINIA, Richmond, Virginia, for the fiscal year ended September 30, 1950, and have prepared therefrom the three accompanying exhibits. The scope of the examination is explained in the following comments.

The assets and liabilities of the Society at September 30, 1950, are stated in the Balance Sheet, Exhibit "A", and the income and expenses for the fiscal year ended at that date, on the cash receipts and disbursements basis, are shown in Exhibit "B".

Yours very truly,
MITCHELL, WIGGINS & SMITH
By R. E. WIGGINS
Certified Public Accountant.

Financial Condition

The financial condition of the Society at September 30, 1950, is shown in the Balance Sheet, Exhibit "A", a summary of which is given in comparison with that at September 30, 1949, as follows:

ASSETS	9-30-50	9-30-49
Cash	$47,039.65	$44,256.06
Accounts Receivable	2,249.09	2,104.35
Investments—United States Bonds	47,509.94	48,490.44
TOTAL	$96,798.68	$94,850.85
LIABILITIES AND SURPLUS		
Liabilities:		
Accounts Payable	$ 1,593.18	$ 1,611.26
Surplus:		
General Fund	86,044.64	82,826.62
Special Legislative Fund	9,160.86	10,412.97
TOTAL	$96,798.68	$94,850.85

Operations

The income and expenses of the General Fund for the fiscal year ended September 30, 1950, are shown in Exhibit "B", prepared on the cash receipts and disbursements basis. A summary of income and expenses in comparison with those of the preceding year are presented as follows:

	FISCAL YEAR ENDED	
INCOME	9-30-50	9-30-49
Membership Dues	$43,499.48	$41,143.81
Medical Monthly Publication	16,266.13	15,508.40
Other Income	671.18	3,325.56
TOTAL	$60,436.79	$59,977.77
EXPENSES		
Executive Office	$37,512.04	$25,935.62
Public Relations Department	20,484.55	21,664.16
TOTAL	$57,996.59	$47,599.78
SURPLUS INCOME FOR THE YEAR	$ 2,440.20	$12,377.99

The receipts and disbursements of the Legislative Committee's Special Fund are shown in Exhibit "C".

Scope of Examination

CASH — $47,039.65

All recorded cash receipts were accounted for by deposits in the banks, and disbursements were supported by properly signed and endorsed paid checks. Balances on deposit at September 30, 1950, were confirmed by direct confirmation with the banks as follows:

GENERAL FUND	
First and Merchants National Bank—Checking Account	$32,295.98
First and Merchants National Bank—Savings Account	6,520.81
The Bank of Virginia—Savings Account	7,129.07
Southern Bank and Trust Company—Savings Account	971.93
TOTAL	$46,917.79
LEGISLATIVE COMMITTEE—SPECIAL FUND	
First and Merchants National Bank—Savings Account	121.86
TOTAL CASH	$47,039.65

INVESTMENTS — $47,509.94

Investments, consisting of United States Savings Bonds and United States Treasury Bonds, were verified by inspection of the securities held in the safe deposit box at First and Merchants National Bank, Richmond, Virginia. The Savings Bonds are shown in the Balance Sheet at their current redemption value and the Treasury Bonds purchased in March 1948 are shown at cost.

IN GENERAL

Insurance in force at September 30, 1950, determined from policies on file, was as listed below:

Office Furniture and Fixtures	$1,000.00
Walter Reed House, Belroi, Virginia	$2,000.00
STOCK OF BOOKS:	
Fire, Lightning, Windstorm	$1,000.00
Sprinkler Leakage	$1,000.00
FIDELITY BONDS:	
Executive Secretary-Treasurer	$5,000.00
Secretary	$5,000.00

Balance Sheet—September 30, 1950
Exhibit "A"
ASSETS

CASH		
General Fund	$46,917.79	
Special Fund—Legislative Committee	121.86	$47,039.65

DUE FROM MEMBERS (Estimated Collectible Value)		
1950 Dues—50 @ $25.00		1,250.00
ACCOUNTS RECEIVABLE		
Virginia Medical Monthly for Advertising		999.09
INVESTMENTS		
United States Savings Bonds:		
General Fund	$23,222.50	
Special Fund—Legislative Committee	9,039.00	
United States Treasury Bonds:		
General Fund—Cost	15,248.44	47,509.94
		$96,798.68

LIABILITIES AND SURPLUS

LIABILITIES		
Accounts Payable:		
Preparation of Medical Journal—September 1950 Issue	$ 1,251.68	
Executive Office—Printing	300.50	
Public Relations—Printing	41.00	$ 1,593.18
SURPLUS		
General Fund	$86,044.64	
Special Fund—Legislative Committee	9,160.86	95,205.50
		$96,798.68

Statement of Income and Expense
For the Fiscal Year Ended September 30, 1950

Exhibit "B"

GROSS INCOME	ACTUAL	BUDGET
Membership Dues	$43,499.48	
Royalties on History of Medicine in Virginia	52.50	
Interest on Savings Accounts and Securities	436.68	
Virginia Medical Monthly:		
Advertising	15,904.42	
Subscriptions from Non-Members	361.71	
Miscellaneous	182.00	
TOTAL GROSS INCOME	$60,436.79	
EXPENSES		
Executive Office:		
Salaries	$13,650.00	$13,850.00
Bonuses for Year Ended September 30, 1949	600.00	*
Office Rent	600.00	600.00
Telephone and Telegrams	381.40	225.00
Stationery and Office Supplies	300.58	200.00
Repairs and Replacements	79.68	200.00
Postage	255.71	300.00
Audit Fees	130.00	90.00
Social Security Tax	139.87	60.00
Councilmen and Officers Expenses	114.30	100.00
Delegates to A.M.A. Convention	1,843.86	1,550.00
President's Expense	250.00	250.00
Scientific Exhibits Committee	1,521.30	1,600.00
Walter Reed Commission	23.40	75.00
Cancer Committee	223.66	400.00
National Health Committee	20.90	30.00
National Emergency Medical Service Committee	102.06	150.00
Membership Dues — Affiliated Agencies	50.00	60.00
Special Appropriations by President	66.00	500.00
Convention Expenses and Commercial Exhibits	31.46	700.00
Special Appropriations:		
Virginia Council Health and Medical Care	2,000.00	2,000.00
Conference on Medical Service	.....	150.00
National Society Medical Research	150.00	150.00
Preparation and Distribution of Medical Journal	14,267.09	14,500.00
Department Clinical and Medical Education	25.00	.....
Child Welfare Committee	16.90	.....
Committee on Medical Service	142.36	.....
Woman's Auxiliary	400.00	400.00
Miscellaneous Expenses	126.51	75.00
TOTAL—EXECUTIVE OFFICE	$37,512.04	$38,215.00
Public Relations Department:		
Salaries	$11,080.81	$11,700.00
Traveling Expense	1,580.69	2,000.00
Telephone and Telegrams	1,090.00	1,400.00
Rent	600.00	600.00
Postage	762.70	1,000.00
Stationery and Office Supplies	566.97	400.00
Conference Expenses	915.52	1,000.00
Radio Programs	.....	1,500.00
Press—Advice, Space, Etc.	.....	1,000.00
Printing, Literature, Bulletins and Subscriptions	2,419.00	2,000.00
Office Equipment	324.53	400.00
Educational Campaign	557.66)	
Exhibits	33.95)	1,000.00

*Budget appropriation was eliminated during the year by council, after payment had been made for bonuses based upon the fiscal year ended September 30, 1949.

XUM

Social Security Tax	146.36)	
Miscellaneous Expenses	406.36)	
TOTAL PUBLIC RELATIONS DEPARTMENT	$20,484.55	$24,000.00
TOTAL EXPENSES	$57,996.59	$62,215.00
SURPLUS INCOME FOR THE YEAR	$ 2,440.20†	

Legislative Committee Special Fund
Receipts and Disbursements
For the Fiscal Year Ended September 30, 1950
"Exhibit "C"

BALANCE—October 1, 1949	$ 58.47
RECEIPTS	
Interest on Savings Accounts	1.40
Proceeds from Sale of U. S. Government Bonds	1,552.00
TOTAL AVAILABLE	$1,611.87
DISBURSEMENTS	
Legal Service	1,490.01
BALANCE—September 30, 1950	$ 121.86
FUND ASSETS—September 30, 1950	
Cash in Bank	$ 121.86
U. S. Government Bonds	9,039.00
TOTAL	$9,160.86

†Does not include $280.00 profit on sale and repurchase of savings bonds during the year.

Bonds Owned by Medical Society of Virginia
September 30, 1950

GENERAL FUND

TYPE OF BOND	SERIES	NO. BONDS	DATED	DUE	VALUE AT MATURITY	COST	VALUE AT 9-30-49	VALUE AT 9-30-50
U. S. Savings	F	10	2-1-43	2-1-55	$ 5,000.00	$ 3,700.00	$ 4,175.00	$ 4,305.00
U. S. Savings	F	17	12-1-43	12-1-55	8,500.00	6,290.00	6,876.50	7,097.50
U. S. Savings	F	1	1-1-44	1-1-56	500.00	370.00	404.50	417.50
U. S. Savings	F	3	2-1-44	2-1-56	1,500.00	1,110.00	1,213.50	1,252.50
U. S. Savings	F	2	6-1-44	6-1-56	1,000.00	740.00	797.00	822.00
U. S. Savings	F	2	12-1-44	12-1-56	1,000.00	740.00	786.00	809.00
U. S. Savings	F	2	5-1-45	5-1-57	1,000.00	740.00	776.00	797.00
U. S. Savings	F	7	11-1-45	11-1-57	7,000.00	5,180.00	5,369.00	5,502.00
U. S. Savings	F	6	10-1-49	10-1-61	3,000.00	2,220.00	2,220.00	2,220.00
U. S. Treasury		3	2-1-44	9-15-56-59	15,000.00	15,248.44	15,248.44	15,248.44
					$43,500.00	$36,338.44	$37,865.94	$38,470.94

Legislative Committee

SPECIAL FUND

U. S. Savings	F	1	3-1-46	3-1-58	$ 500.00	$ 370.00	$ 383.50	$ 393.00
U. S. Savings	F	11	3-1-46	3-1-58	11,000.00	8,140.00	8,437.00	8,646.00
					$11,500.00	$ 8,510.00	$ 8,820.50	$ 9,039.00

1950-1951 BUDGET—MEDICAL SOCIETY OF VIRGINIA

October 1, 1950—September 30, 1951

EXECUTIVE OFFICE	
Salaries	$17,400.00
Rent	600.00
Telephone	400.00
Postage	300.00
Stationery and Supplies	350.00
Repairs, Replacement, and Office Equipment	300.00
Convention Expense	700.00
Council Expense	425.00
Delegates to A.M.A.	800.00
Assistant to A.M.A.	200.00
President's Expense	600.00
Virginia Medical Monthly	15,000.00
Scientific Exhibits	1,600.00
Walter Reed Commission	75.00
Cancer Control	400.00
Maternal Health Committee	30.00
Child Welfare Committee	25.00
National Emergency Medical Service	150.00
Medical Service Committee	150.00
Membership Dues Affiliated Organizations	60.00
President's Contingent Fund	500.00
Special Appropriations:	
Virginia Council Health and Medical Care	2,000.00
Conference on Medical Service	150.00
National Society of Medical Research	150.00
Miscellaneous Expenses and Audit Fee	250.00

Woman's Auxiliary	400.00
Social Security	300.00
	$43,315.00
PUBLIC RELATIONS OFFICE	
Salaries	$10,900.00
Traveling Expense	2,000.00
Telephone and Telegrams	1,400.00
Rent	600.00
Postage	1,000.00
Stationery and Office Supplies	400.00
Conference Expenses	1,000.00
Radio	1,500.00
Press	1,000.00
Printing, literature, bulletins and subscriptions	2,000.00
Office Equipment	400.00
Educational Campaign, Exhibits, Miscellaneous	1,000.00
	$23,200.00
TOTAL BUDGET	$66,515.00

PUBLIC RELATIONS

Your A. M. A. Investment.

Exactly what benefit is received from payment of American Medical Association dues? This question is natural and justifiable. As stated by Dr. George F. Lull at the recent Conference on Medical Service, there is little tangible return.

The Journal is perhaps the most significant printed material furnished. At a cost of $13.52 yearly, it is included at no extra cost in the $25 membership dues. Generally, $15 is earmarked for *The Journal* and $10 to the A. M. A. as dues. The "dues" allocation is used to maintain the vast activities undertaken by the Association.

The House of Delegates discusses and determines what matters should concern the A. M. A. Such matters are then routed to the proper committee or bureau for action. It is in support of these groups that a large portion of the dues is expended.

The Library providing much up-to-date information to physicians is not an inexpensive project; exposition of quackery by the Bureau of Investigation costs more than $20,000 yearly; the Council on Medical Education and Hospitals uses up to a quarter million dollars annually advancing medical education standards; a half million was donated to the American Medical Education Foundation to forestall federal control of medical schools; the Washington Office of the A. M. A. keeps the profession's interest before Congress and informs the profession of Congressional trends. These figures do not include the operational costs of the various other councils and departments too numerous to mention. The productive labors of these many functioning suborganizations accrue to the membership.

Many more thousands are expended in underwriting the Quarterly Cumulative Index Medicus and the American Medical Directory as well as financing several journals on specialized aspects of medical practice.

As expressed by Dr. Lull, the greatest return for membership dues lies in the intangible research and protection afforded the medical profession and through it, the public.

American Medical Education Foundation.

On December 5 in Cleveland, Dr. Elmer L. Henderson, President of the American Medical Association, challenged the medical profession to initiate a fund-raising program in support of hard pressed medical schools rather than accept federal subsidies and ultimate federal control of medical education.

The following day Dr. Louis H. Bauer, Chairman of the A. M. A. Board of Trustees, announced the unanimous adoption by that Board of a half million dollar appropriation to serve as the nucleus of the fund. Within hours, more than $6,600 was voluntarily pledged by individuals.

The second step in the drive evolved. A. M. A. organized the American Medical Education Foundation under the laws of Illinois, a nonprofit corporation, to receive and distribute existing and future donations. With Dr. Walter B. Martin, Norfolk, as one of the directors, the Foundation is today

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actively engaged in enlarging and allocating its endowment to needy medical schools.

In keeping with Dr. J. Morrison Hutcheson's resolution adopted by the Medical Society of Virginia, October 1950, supporting the position of the A. M. A. with regard to federal aid to medical education, the Council authorized a $1,000 contribution to the Foundation. According to the A. M. A., this was the second state medical society to appropriate a contribution to this fund.

A recent policy development has been announced by the Foundation directors. Now a physician may designate the particular institution to which he wishes his gift applied. Such specific assignment will be made along with the name of the physician.

Another major development was the action of the same Board in voting that the A. M. A. would assume all the operating and overhead costs of the Foundation. This assures contributing individuals that their entire gratuity will be passed on to the medical schools without deductions.

The latest efforts of the campaign are summarized in a letter to the Medical Society of Virginia from Dr. Donald G. Anderson, Secretary-Treasurer of the Foundation. This refers to a stated belief of the Board of Directors that "it would be of the greatest help in securing support if each county or district medical society would appoint an individual or committee to assume responsibility for stimulating interest in the Foundation and seeing that the largest possible number of physicians contribute promptly and generously."

It is assumed that any official action on this by the Medical Society of Virginia will be discussed by the Council at its next meeting, probably in May.

Continuing Education.

Under the chairmanship of Dr. W. C. Caudill of Pearisburg, the Department of Clinical and Medical Education of The Medical Society of Virginia is moving forward with its program of continuing education for members. Underwritten in an amount of $1,000 by the Society, the Department plans "field education" courses embracing cancer as well as other outstanding medical subjects. According to Dr. Kinloch Nelson, these "on-the-scene post-graduate seminars" have proved highly valuable in other states.

In a letter to all component societies, Dr. Nelson outlined the suggested plan adopted by one society with the hope that others would be interested in organizing such meetings. The idea is to "offer practical post-graduate work to many physicians who are unable to leave their practice for any length of time for more prolonged training." Indications are that seminars are more likely to be planned in such a manner as to encourage local attendance by reason of convenience to physicians in contiguous communities.

Two annual meetings in April and September have been proposed to be so arranged at such a time as to offer the complete course during an afternoon and evening session. The suggestion is that the cost be at least partially defrayed by those in attendance, using the State Society appropriation only if necessary.

The Department feels that it is now prepared to operate effectively its program if local medical societies want it. Interested member groups should notify Dr. Nelson at the Medical College of Virginia in Richmond, so that the Department could procure the speakers and arrange the program.

The first of the above articles is an indication of the importance of an over-all organization through which services may be provided for the profession and to the individual member.

The second refers to the values that may accrue from efforts of members of the profession to avoid the entry of the Federal Government, or politics, into medicine.

The third article is an illustration of the voluntary effort on the part of physicians to keep up with, and still further improve their professional knowledge, which in the last analysis is calculated to enure to the benefit of the patient.

All of these contribute to *professional* relations, and obviously have a bearing on *public* relations.

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Medical Society of Virginia Cancer Committee

Chairman, GEORGE COOPER, JR., M. D.

Medical School Building, University, Virginia

Reprints of this and preceeding Bulletins may be obtained from this office

April 1, 1951

Case Reports

Case 1. Several years ago an elderly man presented himself with a small epithelioma at the left angle of the nose. Radium was applied and the patient was specifically informed that response to treatment would not be immediate and that he should return in one month for a check-up.

Three months later he came in with a handkerchief across his face and said, "Doctor, I don't blame you at all for what has happened to me, but when I went home my neighbors said that radium would not do me any good and that I should go to see Doctor ———— who had a Cancer Paste that would take it off."

At this point he removed the handkerchief and exposed a gaping hole replacing the left nostril and cheek and extending almost to the base of the skull. Three months later, he died of meningitis.

Case 2. A 53 year old woman who had passed the menopause five years before complained to her physician that she had been spotting for eight months. Without even doing a pelvic examination, he prescribed ergotrate. She continued spotting for another four months, then suffered a profuse vaginal hemorrhage. The same doctor was called in, and again he did nothing except prescribe ergotrate. After six more months of spotting, she went to another physician. He did a pelvic examination and found a huge fungating tumor of the cervix with vaginal extension and a frozen pelvis. The biopsy report was carcinoma of the cervix, grade 3. Despite radium and roentgen therapy, the patient died nine months later with extensive metastases and urinary tract infection.

Comment: Although the first patient was mistreated by a quack and the second by a licensed physician, the parallel between the methods of handling the two cases is striking. The quack treated the patient by a method unrelated to the disease. The licensed physician did exactly the same thing. It might even be said that the quack was morally better off than the physician because the quack had at least a verbal report of a diagnosis whereas the physician made no attempt to reach one. Incidentally, the quack has had legal action brought against him for practicing medicine without a license.

If the second case history represented a lone incident, its presentation might be considered in poor taste. Unfortunately, similar histories are recorded in our Tumor Clinics in significant numbers. Your Committee feels that the medical profession should be informed.

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EDITORIAL

William S. Halsted (1852-1922)

AT the turn of the Century, surgical technic was not the finished affair that we know today. There were no rubber gloves, masks and costly operating tables such as we are accustomed to now. The previous generation had just graduated from emergency kitchen surgery. As a matter of fact, most hospitals had surgical kits and teams which they sent out to neighboring towns for emergency operations. The operations were mostly for appendicitis. Gall bladder surgery was in its infancy and this was true of other abdominal surgery. Chest surgery and brain surgery were unknown. The man who was responsible for most of the refinement of modern surgical technic was William S. Halsted.

William Stewart Halsted was born in New York City, September 23, 1852. For generations, on both sides of the family his ancestors had been prominent merchants and professional men in New York and neighboring New Jersey. His grandfather founded the Union Theological Seminary in New York. His parents were cousins. When ten years old he was sent to a private school at Monson, Massachusetts. He was not happy at school and in the spring he attempted to escape. He was "captured", as he himself expressed it, and sent back. The next year he was sent to Andover where he graduated at the age of 16. At Yale he devoted himself to athletics and dramatics. Nevertheless, he graduated in 1874 and entered the College of Physicians and Surgeons the following fall, registering with Dr. Henry B. Sands. Thus it was that he began his career at the beginning of the antiseptic era and came in contact with the best men in New York. Through his friendship with Dr. George B. Fowler, he became assistant to Professor John C. Dalton. In his second winter he made some chemical tests in the office of Alonzo Clark, who was at the time President of the College and Professor of Pathology and the Practice of Medicine. In the summer of 1875 he worked in the pharmacy of the Centre Street Dispensary. Here he came in contact with Dr. Thomas A. McBride. In the autumn of 1876 he took the examinations for Bellevue Hospital, in spite of the recent ruling that only graduates in medicine were eligible. He won fifth place and chose the 4th surgical division. As an interne at Bellevue he followed the medical work with as much interest as the surgical. He came under the influence of Janeway, Loomis, and Jacobi. Lister had just visited this country. His teaching was variously received. The surgeons of the 4th division made no objections to the internes trying antiseptic surgery.

In the spring of 1877 he took the examinations for the M.D. degree, standing tenth in his class. This entitled him to compete for a prize of $100, which he won. In the winter of 1877, he took a competitive examination for house physician to the New York Hospital which he also won. Here, in the summer of 1878, he first met Dr. William H. Welch, who had just returned from Europe. Halsted began his own European "Wanderjahrs" in the fall. After studying in Vienna, Würzburg, Leipzig, Halle, Berlin, Hamburg and Kiel, he returned to New York early in September 1880. In these two years were laid the foundation of friendships that lasted throughout his life—with men like Billroth, Wölfler, Mikulicz, Kölliker, Weigert, Huber, Thiersch, v.Bergmann, Volkmann, Schede and Esmarch.

Upon his return to New York, he became assistant to Sands at Roosevelt. It was at Roosevelt that he organized his famous "quiz" with George Monroe, Tuttle, Hartley, Thompson, Roosevelt and Dr. Welch. He taught anatomy at P. and S., anatomy and sur-

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gery at his "quiz", and surgery Sunday mornings at the Roosevelt Hospital. He had the reputation of being a bold and original surgeon, and was rapidly building up a lucrative private practice. He was well on the road to success.

About this time Dr. Halsted reached a mysterious turning point in his career. In September 1884, Koller announced at the Heidelberg Ophthalmic Congress that cocaine applied locally would anesthetize the conjunctiva and cornea. Halsted and his associates at the Roosevelt Hospital began to experiment with the drug. Halsted discovered that if cocaine were injected into a sensitive nerve the parts supplied by this nerve became insensitive. This was the beginning of local anesthesia. Years later the Maryland Dental Society tendered him a dinner at which they awarded him a gold medal from the American Dental Association for his discovery of conduction anesthesia. The Roosevelt group continued to experiment with the drug, trying its effect on themselves and their friends. No one at that time knew that cocaine was habit forming. Halsted was among those who fell a victim to the drug. His addiction was a carefully guarded secret and every effort was made to cure him. Dr. Welch, who had already gone to Johns Hopkins as Professor of Pathology, took him to Baltimore and put him to experimenting with dog surgery, giving him a room in his laboratory for the purpose. Finally, he went to a sanatorium in Providence and told the superintendent to see that he had no money with which to buy drugs. Thus he wrestled with himself and won. How much all this had to do with his subsequent career no one can say. At least we know that he came back to Baltimore to a more thoughtful, leisurely life and one far more fruitful than the strenuous rush in New York could ever have been. He began to study the fundamental problems of wound healing on his dogs. He had already mastered Listerism in New York and he knew that exclusion of bacteria, even if that could be accomplished completely, was not the whole answer. Avoiding tissue trauma was as important or even more so. He showed that if the tissues were not traumatized and the circulation not interfered with, bacteria introduced within the peritoneum failed to cause peritonitis. He showed the importance of perfect hemostasis and the abolishing of dead spaces. He advocated ligatures so fine that if you used too much force in tying them the ligature would break. He showed the harmfulness of mass sutures in interfering with the circulation. He did not minimize the bad effects of bacteria. In fact, he advocated subcutaneous sutures in order that the needle would not have to penetrate the skin and thus carry bacteria to the wound. He introduced rubber gloves, and thin gutta percha as a protective dressing of wounds. He found out that the submucous layer gave strength to the intestinal suture in end to end anastomosis.

When the Johns Hopkins Hospital opened in 1889, Dr. Halsted was ready for the job as surgeon. Here he not only developed his hernia operation and devised the radical operation for cancer of the breast for which he became widely known, but he established a school for the training of master surgeons. After the medical school was started, Dr. Halsted, or the "Professor", as the students used to call him, spent as much time operating upon dogs as he did with patients. Every thing he did was carefully and thoroughly tested on the dog first. When thyroid surgery began to develop, some cases had convulsions after the operation. Other operators had trouble with severe hemorrhage. He worked out on dogs a technic to avoid removal or injury of the parathyroids and to cope with the engorged blood vessels.

He was interested in the fundamentals and not in frills. His operating table is abundant evidence of this. One of them is in the Museum of the Richmond Academy of Medicine. It is a brass bound, rectangular trough made of oak. There is a hole in the center of the trough for drainage. In either end of the trough is a triangular block

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that reaches to within an inch of the top of the trough, and over the top is an oaken board which is about 2 feet longer than the length of the trough. A pad on the board completes the equipment, except for "surgical John", the orderly. If the Professor wanted the patient in the Trendelenburg position, John would draw the board toward the feet until the head end rested on the triangular block and then hoist the foot end on his shoulder and hold it at the height the Professor desired. The head was elevated in just the opposite way. The "table" was equipped with an arm board that rested in square notches in the sides of the trough so that the arm board fitted under the board upon which the patient rested.

The Professor was a perfectionist and got perfect obedience from all with whom he came in contact. Just what verb to use I do not know. He did not demand it; he did not exact it, it just came naturally from admiration of the surgeon. Surgical John would no more have thought of moving or fidgeting when holding the Professor's table than would a statue of Hercules. On one occasion the Professor was demonstrating to the students an old ankylosis of the shoulder joint. He had told us that sometimes the axillary vessels were injured when manipulating such a joint. A few minutes later that is just what happened. He asked Follis, who was his resident at the time, to compress the subclavian artery while he prepared to operate on the axilla. At the end of the operation, Follis was still holding, uncomplainingly, the subclavian artery. The Professor turned to him and said, "That will do, Follis, I thank you." The whole episode was so "in character" that no one, at the time, thought it was funny, such was the respect that everyone had for the Professor.

In June 1890, the Professor married his head operating room nurse, Miss Caroline Hampton. Miss Hampton was a niece of General Wade Hampton, and they were married from the Hampton home, "Millwood". Dr. Welch was best man. Miss Hampton was educated at Edgehill in a school taught by Miss Randolph, a great granddaughter of Thomas Jefferson, and at the New York Hospital, where she graduated in nursing. She inherited a place in the North Carolina mountains near Cashiers. Here they spent at least a part of every summer. Mrs. Halsted was an expert horsewoman and fond of dogs. She raised dahlias and managed the farm. The Professor became greatly interested in dahlia culture, but spent much of his time in long walks in the woods and in reading. Some summers the Professor would go first to Europe and join Mrs. Halsted later at "High Hampton", as they named their place in the mountains. In Baltimore, they lived in 1201 Eutaw Place. The Professor had long been a fastidious old bachelor, having his shirts laundered in Paris and his clothes made in London. Mrs. Halsted was a great sufferer from migraine. Nevertheless, they got along well together, for they were devoted to one another. They did little entertaining, but when they gave a dinner, it was perfection itself. Dr. Halsted had few interests outside his home and his work, and few close friends. Those who knew him well, like Dr. Welch, Col. Venable and Mr. Gordon McCabe of Richmond, found him delightful company with a sly sense of humor.

He died September 7, 1922 of pneumonia and pleurisy following an operation on the common duct for the removal of a gall stone. His funeral was from his home on Saturday, the eighth, followed by cremation in London Park Cemetery. His ashes were interred in Greenwood Cemetery, Brooklyn. Dr. Frank Kent, in an editorial in the *Baltimore Sun* of September 8th, said in part, "Because Dr. William S. Halsted lived, the world is a better, a safer, a happier place in which to be. In his death not only Baltimore, but civilization as a whole, has sustained a heavy loss. He was one of the few men who really count. Quiet, simple, unostentatious, except in the medical world

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where he towered, a great and dominating figure, the full scope of his genius and the tremendous extent and value of his services to mankind were neither generally known nor generally appreciated."

REFERENCES

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The Cost of Medical Education

ONCE upon a time a medical school was a paying institution. It was called a proprietary school. A group of prominent physicians and surgeons would get together, buy an old building, knock out some partitions to make room for a dissecting hall and a lecture room, and advertise for students. At the end of the session they would divide the fees and the expenses. The latter were practically nil. As the school became better established the faculty would usually attempt to form a connection with some chartered liberal arts college, with the idea of "legalizing" the M.D. degree that they gave. The connection however was purely nominal, the faculty retaining all the proprietary rights and the profits.

Fifty years of such development produced a chaotic condition in medical training. It was to straighten out this situation that the American Medical Association was founded a little more than one hundred years ago. It established standards, encouraged the weaker schools and eventually did away with the "diploma mills". If any institution has a vested interest in the medical schools, it is the American Medical Association.

The downfall of the medical school as a money making institution began with the advent of the laboratory. First there came laboratories for chemistry, histology, physiology, pharmacology and pathology. The labs for the basic sciences were not so bad from the standpoint of cost, but when the clinical laboratory appeared, and the laboratory was brought to the patient, the costs really began to mount. About this time X-rays became a necessity in diagnosis and there was a commendable furor for investigation, which further added to the financial burden and also introduced a bookkeeping problem. Since then no one has known what medical education actually costs or how much of the medical school's income goes to research. Another curious practice is the use of the term "deficit". Deficit to a medical school does not necessarily mean a loss, but merely a curtailment of activities. These activities consist of (1) undergraduate education, (2) postgraduate education, (3) research, (4) community service, and (5) care of the indigent sick. The student fees could no longer cover the cost of medical education, to say nothing of the care of patients and the increasing costs of research.

In the early days, the student was expected (with the aid of the janitor) to supply his own "subject" from the nearby cemetery. When this was no longer possible or desirable, the various States passed Anatomical Laws that provided an adequate supply of cadavers. Later, when mounting costs made it necessary for the medical schools to have outside sources of revenue, many States provided the funds. In addition, philanthropic rich men gave huge endowments to certain schools that excited their fancy.

Such was the situation fifty years ago. In our own case, for instance, the tuition was $200 a year and the medical school spent $500 upon each student. The situation has grown steadily worse for two main reasons. The first is the necessity for the medical

schools to have teaching hospitals. This has added stupendous costs. The second is the cheapening of money. The endowments not only yield fewer dollars, but the dollars buy fewer things. Furthermore, this inflationary movement has dried up the source of future endowments. Inflation has been particularly hard on all educational institutions, and many have developed what they call a "living endowment". They have persuaded their alumni to give an annual gift towards maintenance. A yearly gift of $100 is the equivalent of an endowment of $2,857 at the present yield of invested capital.

With the medical schools the condition has become chronic and no longer has the appeal that freshness and newness gives. If it is not the medical school, it is the hospital that is hopelessly in the red. The public has a vague idea that the deficit is shifted back and forth from one to the other as occasion and the drive for funds demand. Another confusing aspect of the situation is that every medical school is filled to capacity with medical students. It is un-American to have more business than you can do and run behind doing it. The natural answer is that something must be wrong and that is a poor basis for a campaign for raising money. The trouble is that we have mixed up three distinct things, (1) medical education, (2) the care of the indigent sick, and (3) research. If it is possible we should unscramble the eggs. Some master mind of an auditor should establish a system of accounting, by which the public could know what medical education costs, what the care of the sick in the hospital costs, and what medical research costs. The medical student should be charged tuition sufficient to cover the costs of medical education. If this proved too large for the average student, communities that need doctors would gladly underwrite the tuition of a likely student. The care of the medical indigent is a community problem that most communities willingly assume. Research problems have other appeals.

In the meantime the medical schools must go on. The medical profession cannot stand by and say let George (meaning Uncle Sam) do it. Uncle Sam seems all too anxious to do just that, for it is a Federal axiom that the government controls what it supports financially. Nothing could be more disastrous than for the Federal government to control medical education. To meet the present emergency, the American Medical Association has not only given a half million dollars but has also established the "American Medical Education Foundation" to receive and distribute additional funds. The Directors are well-known to you and should inspire your confidence. They are Louis H. Bauer, Gunnar Gunderson, Edwin S. Hamilton, Walter B. Martin, Elmer L. Henderson, George F. Lull, J. J. Moore, H. G. Weiskotten, Harvey B. Stone, Victor Johnson and Donald G. Anderson. It is hoped that every doctor will make a substantial contribution to the Foundation. Make out your check to the American Medical Education Foundation and send it to 535 North Dearborn Street, Chicago 10, Illinois.

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THE PRESIDENT'S MESSAGE

A FEW weeks ago, the Council voted to exempt from dues those members going into the Armed Services, for the period of time that they remain in service.

While the Council feels that this is the only fair thing to do and is glad to initiate it, it is aware of the likelihood that this will materially reduce the income of the Society for the next year or more, or until these members return to practice. We must seek other sources of income.

The roster of the Virginia Board of Medical Examiners, published July 1950, lists 2,627 persons licensed to practice medicine and surgery in the state. There are 2,230 members of the Society. Some listed in the roster are not eligible for membership in the State Society. It is believed that there are quite a few who are eligible and desirable who are still not listed as members of the Medical Society of Virginia.

We must go after these physicians (through the local medical societies, of course). We need them and they need us.

If you know of any physician who would be a desirable member and who does not belong to the state society, we should like to urge that you call this to the attention of the local society in which he has membership, or with which he is more likely to affiliate.

Many illustrations might be offered to point up the strength of unity. We are still in the midst of an educational program to justify private enterprise medicine.

It behooves every member to be concerned with all the unity and strength that can be mustered in the local society, in the state society and in A.M.A.

Much of our present dilemma stems from lethargy on the part of the individual membership. We appeal to each of you to assist in increasing our membership.

We cannot have a program without funds. The cost of this should be shared by those who profit. We know of no better or easier way of providing the necessary revenue than by an increase in our membership.

This is one of our problems and we know that you will want to help solve it.

Component societies and membership, please give your full support to the extent of your ability to the American Medical Education Foundation. Send your donation at once. My contribution has gone. Has yours?

C. L. HARRELL, M.D.,

Floral Eponym

Alstroemer, Claude. 1736-1794

ALSTROEMERIA

Baron Claude Alstroemer was a friend of Linnæus. On a trip to Spain he described a plant, the Lily of the Incas, which Linnæus named for him. Alstroemer was a member of the botanical society of Florence and of the Royal Academy of Stockholm, of which he was at one time the president.

Alstroemeria is a large genus of South American amaryllidaceus plants having fibrous roots, leafy stems and umbels of variously colored flowers.

SOCIETY PROCEEDINGS

The Williamsburg-James City County Medical Society

Had a dinner meeting on February 16, at the King and Kay Tea Shop in Williamsburg, with Dr. E. Beamer Maxwell presiding. Fifteen members were present and Mr. Elliott W. Jayne, Fire Marshal, was a guest. The secretary, Dr. Granville L. Jones, reported on the meeting of the State Society Public Relations Committee held in Richmond on December 15. A letter was read from the local Fire Department, asking the Society's help is assisting them in working out a plan for more prompt and effective medical attention for accident cases. A committee was appointed to see if a panel of physicians could be set up for such emergency calls and if some funds could be obtained from the community chest to help reimburse physicians and hospitals when necessary.

In the election of officers, Dr. Baxter I. Bell was named president; Dr. Granville L. Jones vice-president; and Dr. Gordon Keppell secretary-treasurer, all of Williamsburg.

Dr. Frank A. Dick presented a short talk on the treatment of hip fractures, illustrated by x-ray films, from his consulting practice at Eastern State Hospital.

A motion was passed requesting the secretary to communicate with the Mid-Tidewater Medical Society to see if a joint meeting could be arranged either for the next meeting or in the Fall.

The Wise County Medical Society

Held its regular meeting at the hotel in Norton on February 14, as guests of Drs. W. B. Barton, G. B. Setzler, F. E. Handy, J. D. Culbertson and T. J. Tudor. Twenty-five members attended. Following a turkey dinner, hospital and medical rates were discussed but no action taken on this. Dr. Setzler, just back from a national conference in Chicago, reported on the doctor supply, stating it was the belief of the conference that there was an improper distribution rather than an inadequate supply of doctors.

Officers elected for 1951 are: President, Dr. George F. Sutherland, Big Stone Gap; vice-presidents, Drs. J. J. Porter of Appalachia and George C. Snead of Derby; secretary-treasurer, Dr. Thomas J. Tudor, Norton; and new member of the board of censors, Dr. Dahar Cury, Norton. After the business session, the latest release on Cancer of the Breast was shown. The next meeting is to be on May 9th, at which time there will be a guest speaker.

James River Medical Society.

The 1951 officers of this Society, elected recently, are: President, Dr. W. E. Moody, Scottsville; vice-president, Dr. J. H. Yeatman, Fork Union; and secretary-treasurer, Dr. W. A. Pennington (re-elected), Buckingham.

The Danville-Pittsylvania Academy of Medicine

Held its regular monthly meeting, February 16, with Dr. Norman Conant as guest speaker. Dr. Conant, Mycologist at Duke University Hospital, Durham, North Carolina, reviewed, with slides, the subject of Deep Mycoses. A patient with blastomycosis was presented by Dr. Walter C. Fitzgerald.

Dr. W. Earl Overcash and Dr. John R. Eggleston, both of Danville, are president and secretary respectively of the Academy.

Lynchburg Academy of Medicine.

The February meeting of the Academy was a dinner one held at the Virginian Hotel, in Lynchburg, on the 12th of the month. The guest speaker was Dr. John M. Nokes of the University of Virginia, whose subject was "Indications for Therapeutic Abortion and Sterilization". Dr. J. W. Davis, Jr., and Dr. Edwin A. Harper are president and secretary respectively of the Academy.

At the March 12 meeting of the Academy, Dr. Parker Lee presented a paper on "Crossed Eyes" and Dr. John Risher, gave a talk on "Meniere's Syndrome". Both of the speakers are of Lynchburg.

Roanoke Academy of Medicine.

Speakers at the March meeting of the Academy were all Roanoke doctors who presented the following program:

Case Reports—Nephritis Following Influenza—Dr. John O. Hurt

Neuromyelitis Optica (Devic's Disease)—Drs. Wm. F. Hatcher, R. Earle Glendy and Edgar N. Weaver

Injuries of the Chest—Dr. Marcellus A. Johnson, III

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Endaural and Fenestration Surgery of Mastoid Bone —Dr. Houston L. Bell

Drs. E. G. Gill and Samuel F. Driver are president and secretary respectively of the Academy.

The Washington County Medical Society

Met at the Martha Washington Inn on December 21st, 1950, at 6:30 p.m. This meeting was held as Ladies' Night, as had been decided at the November meeting. There was an attendance of twenty-seven, besides Dr. and Mrs. J. C. Motley and Mr. and Mrs. Harry Comer, guests.

Mr. Comer gave a very interesting speech on Negroes—their problems and lives, and illustrated his speech with some very enjoyable Negro stories.

Opinion was expressed at this meeting that the Ladies greatly enjoyed "Their Night" and unanimously suggested that another Ladies' Night be held next year. This the Society decided to do.

At the January meeting, the Society elected the following slate of officers for the coming year. President, Dr. J. H. Hagy, Abingdon; Vice-President, Dr. R. L. Hillman, Emory; Secretary-Treasurer, Dr. J. M. Suter, Abingdon.

Dr. John A. Wolfe, the retiring president, expressed his thanks and appreciation for the cooperation he had received during his year in office and then turned the gavel over to Dr. Hillman, the newly-elected Vice-President, as Dr. Hagy was in Florida. Speaking for Dr. Hagy, Dr. Hillman said that the Society would be carried on in the coming year as it had in the past.

The Society met at the Martha Washington Inn on February 15 at 6:30 p.m. with the following present: Drs. Catron, Johnston, LeGarde, Meyer, Shaffer, Smith, Suter and Wycoff.

Mrs. Eula Fullerton, Director of Department of Public Welfare of Washington County, was present at this meeting to present to the Society some of the medical problems which she encountered in her work. A lively discussion followed concerning the care of indigents. On nomination by Dr. Meyer and seconded by Dr. LeGarde the Committee for the Care of Indigents, consisting of Drs. Hayter, H. Wolfe and Suter, were instructed again to investigate the possibility of the establishment of an out-patient department or clinic at the Johnston Memorial Hospital for the care of indigent patients. It was decided that this project should be investigated and that how the patients would be referred, the need for drugs, laboratory facilities, etc. could be worked out at a later date.

NEWS

The Norfolk County Medical Society

Is holding its annual Spring Clinic in Norfolk on April 4. Guest speakers will be Dr. Brian Blades of George Washington University, Washington, and Dr. William Parson of the University of Virginia. An instructive program has been arranged for this outstanding teaching event of the year. Approximately 300 doctors attended last year, which attests the interest of these clinics. Dr. Eugene Lowenberg is chairman of the Committee in charge.

The Ophthalmological and Otolaryngological Section, Richmond Academy of Medicine,

Held its regular meeting at the Commonwealth Club on March 6. After a social hour and dinner, the meeting was called to order by Dr. Ed Vaughan with eighteen members present.

When the business was concluded, Dr. P. N. Pastore presented a Case of Recurrent Meningitis. This was discussed and the subject of Meningitis and Its Treatment further elaborated by Dr. W. H. Higgins, Sr. Following this, Dr. Edgar Childrey presented a paper on Remarks Concerning Causes of Blindness, especially pertaining to those people eligible for income tax deductions because of this disability.

Scientific Exhibits.

Dr. Charles H. Peterson, chairman of the Committee on Scientific Exhibits of the Medical Society of Virginia, announces that the Committee will now receive applications for scientific exhibits for the October meeting of the Society at Virginia Beach. The deadline for applications will be June 15th. The executive committee will then choose those to be shown and notify the exhibitors by July

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1st. This will be necessary because of the limited space at disposal for scientific exhibits. Applications should be sent to Dr. Eugene L. Lowenberg, 100 Medical Arts Building, Norfolk 10, chairman of the local committee for scientific exhibits.

Tri-State Medical Association of Virginia and the Carolinas.

The annual meeting of this association was held in Columbia, South Carolina, the latter part of February, with Dr. R. B. Davis of Greensboro presiding. Officers elected at this time for the succeeding year are: President, Dr. W. R. Wallace, Chester, S. C.; president-elect, Dr. James Asa Shield, Richmond; vice-presidents, Dr. John F. Williams, Richmond, Dr. R. L. Crawford, Lancaster, S.C., and Dr. T. C. Bost, Charlotte; secretary-treasurer, Dr. James M. Northington (re-elected), Charlotte. Councilors named for three years are: Dr. Allen Barker, Roanoke, Dr. C. M. Gilmore, Greensboro, and Dr. W. C. Canter, Columbia.

Southern Surgical Association.

Dr. Frank C. Wilson of Birmingham was elected president of this Association at its annual meeting held recently, and Dr. John C. Burch of Nashville, Tennessee was re-elected secretary. Dr. Carrington Williams of Richmond was elected treasurer.

Richmond Academy of General Practice.

This Society installed the following officers for 1951 at its meeting in February: President, Dr. Carl W. Meador; vice-president, Dr. Russell McAllister; secretary, Dr. Harold I. Nemuth; and treasurer, Dr. W. Linwood Ball.

News from Department of Medicine, University of Virginia.

A Conference on the Treatment of Emotional Disorders was sponsored by the Department of Medicine, University of Virginia, March 23, in cooperation with the Mental Hygiene Committee, Medical Society of Virginia. The Conference was organized under the direction of Dr. David C. Wilson, Professor of Neurology and Psychiatry. The guest speaker was Dr. Jacob Finesinger, Professor of Psychiatry, University of Maryland.

A grant of $9,249 has been awarded Dr. William Parson, Professor of Internal Medicine, and Dr. Jesse Beams, chairman of the Physics Department, University of Virginia, by the National Heart Institute for studies on "Ultracentrifugal Analysis of Human Plasma Lipoproteins and their Relationship to Vascular Disease."

Dr. Grover C. Pitts, Assistant professor of Physiology, University of Virginia, has received a grant from the National Institute of Health for studies on the "Gross Composition of the Fat-Free Mammalian Body. The Ratio of Principal Body Components (Muscle, Bone, and Blood) in Normal Individuals and in Representatives of the Extremes of Body Habitus."

A new Department of Social and Environmental Medicine has been established at the University of Virginia. Dr. Robert D. Wright, senior surgeon, U.S. Public Health Service, has been appointed professor and chairman of the Department, which will be concerned with instruction and research in public health and preventive medicine and in sociological problems which affect health and medical care.

The Childrens' Service Center of the University of Virginia has been approved by the American Association of Psychiatric Clinics for Children as a Center for training in child psychiatry and social work. It is one of 18 such recognized training centers in the United States.

A resident training program in psychiatry has been established under the joint supervision of the Veterans Hospital at Roanoke, and the Departments of Neurology and Psychiatry at the University of Virginia and Duke University. Eighteen months of the three-year program are spent at the VA Hospital in Roanoke, where members of the medical school faculties hold seminars, clinics and ward rounds. The other eighteen months are spent at the University of Virginia or Duke University Hospitals where the trainee gains experience in the care of the more acutely ill patients. Stipends of $2,400, $2,600, $3,000, per year, respectively, are paid by the Veterans Administration. The trainee is not obligated to enter employment of the Veterans Administration on completion of training, and he may withdraw from the program at any time after the first year.

Dr. Lucius D. Hill, III, resident on Thoracic Surgery, University of Virginia Hospital, and a member of the class of '44 at the University, was awarded the John Horsley Memorial Prize at the annual meeting of the Sigma Xi Society, Charlottes-

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ville, March 6, for his thesis on "Acute Renal Insufficiency and the Role of Potassium with Treatment by Intestinal Lavage."

The Award is based on the results of original investigation of a problem in one of the basic medical sciences related to surgery. Competition is limited to graduates of the University of Virginia Department of Medicine of not more than 15 years standing and to former house officers of St. Elizabeth's Hospital, Richmond.

The John Horsley Memorial Prize was established in 1925 by the late Dr. J. Shelton Horsley, Richmond, an alumnus of the University, in memory of his father, Mr. John Horsley of Nelson County. The objective of the donor was to stimulate the spirit of investigation among younger graduates in medicine, particularly in reference to the problems of surgery.

The American College of Physicians

Held a regional meeting on February the 28th, with Dr. C. D. Nofsinger, of Roanoke, chairman, presiding. An interesting clinical program was held at the Appalachian Auditorium from 1:30 to 4:45, following which there was a social hour and dinner at the Roanoke Country Club. Following the dinner, there was an address on The Scientific Perspective of Medicine by Dr. William S. Middleton, President of the American College of Physicians who is Dean of the University of Wisconsin Medical School.

Dr. Robert K. Waller,

Lecturer in Legal Medicine and assistant professor in Pathology at the Medical College of Virginia, has been named a "scholar in medical science" and awarded a grant by the John and Mary R. Markle Foundation of New York. The grant will allow $6,000 a year for five years for the support of Dr. Waller in his work at the College on pathology and research.

Married.

Dr. William R. Whitman and Mrs. Nellie W. Preston, both of Roanoke, February 24.

Dr. Edgar C. Harper,

Formerly director of the tuberculosis field service with the State Health Department and later with the Veterans Administration in Richmond, has been appointed chief medical officer of the VA Center at Mountain Home, Tennessee. Since leaving Virginia early in 1950, Dr. Harper has been chief of tuberculosis service of the Center at Mountain Home.

Dr. Julian E. Mangus,

Formerly of Wytheville, has moved to Spray, North Carolina, where he is engaged in general practice.

Heart Symposium and Clinics.

The annual Winston-Salem Memorial Heart Symposium and Clinics will be held on April 12 and 13 under sponsorship of the Winston-Salem Heart Association. Dr. Robert L. McMillan, associate professor of clinical internal medicine, Bowman Gray School of Medicine, is in charge of arrangements for the meeting.

Participants will include: Dr. Stanley Gibson, director of the department of cardiology, Children's Memorial Hospital, Chicago, Ill., and professor of pediatric and chairman of the department, Northwestern University School of Medicine; Dr. R. Bruce Logue, director of the division of cardiology and assistant professor of medicine, Emory University, Georgia; Dr. Louis N. Katz, Michael Reese Hospital and director of the cardiovascular department of the Medical Research Institute, Chicago, Ill.; Dr. E. Sterling Nichol, director of the American Heart Association, Miami, Fla.; Dr. A. Carlton Ernstene, director of the division of medicine, Cleveland Clinic, Cleveland, Ohio; Dr. Irving S. Page, director of research in cardiovascular diseases, Cleveland Clinic, Cleveland, Ohio; Dr. Edward Weiss, professor of clinical medicine, Temple University and National Committee for Mental Hygiene, Philadelphia, Penna.

All physicians living in North Carolina and neighboring states are invited to attend the symposium.

Congratulations to Dr. Garcin.

The Report of the Board of Governors of the Masonic Home of Virginia to the Grand Lodge, A. F. and A. M., on December 31, carries an appreciation of the work of Dr. R. D. Garcin in caring for the health of the boys and girls at the Masonic Home, Richmond, for fifty-seven years, and without monetary compensation. The report says in closing: "Your Board of Governors desires to extend its hearty congratulations to Dr. Garcin for his long, efficient and faithful service and to offer its prayerful thanks to the Supreme Architect of the Universe

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for the length of days which he has granted our friend, the Beloved Physician."

The American Academy of Occupational Medicine

Held its annual meeting in Wilmington, Delaware, on February 8, 9, and 10. The following officers were elected: President, Dr. Frank M. Jones, Canadian Industries, Ltd., Montreal, Canada; vice-president, Dr. James H. Sterner, Eastman Kodak Company, Rochester, N. Y.; Treasurer, Dr. Arthur F. Mangelsdorff, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J.; and Secretary, Dr. Leonard J. Goldwater, Professor of Industrial Hygiene, School of Public Health, Columbia University, New York. The Board of Directors includes the officers and Dr. Rutherford T. Johnstone, Los Angeles, Calif., Dr. Frank Princi, Cincinnati, Ohio, and Dr. Charles L. Savage, Waynesboro, Virginia.

Medical College of Virginia.

The fourth annual Stoneburner lecture and symposium on Cortisone and ACTH was held in the Egyptian Building, March 8 and 9. The Stoneburner lecturer on the evening of the 8th was Dr. Philip S. Hench of the Mayo Clinic, his subject being The Present Status of Cortisone and ACTH in General Medicine. A symposium on these subjects was held on the 9th, the use of the drugs being discussed by the following specialists: Dr. William Parson, University of Virginia; Drs. Everett I. Evans and Elam A. Toone, Jr., Medical College of Virginia; Dr. Harriet G. Guild, Dr. John E. Howard and Dr. Alan C. Woods of Johns Hopkins, Baltimore; Dr. Joseph J. Bunim, New York University College of Medicine, Dr. Louis J. Soffer, College of Physicians and Surgeons, Columbia, and Dr. Marion B. Sulzberger, New York University Post-Graduate Medical School.

Speech Improvement Camp.

The third annual session of Camp Woodrow Wilson, a summer speech improvement camp, will be held this year from June 24th to August 18th. The camp is dedicated to the purpose of assisting children in correcting speech defects.

Located on the grounds of the Woodrow Wilson Education Center near Fishersville, Virginia, this camp provides not only speech therapy but a complete program of summer recreational activities and ample opportunity for handicraft and other hobbies. Boys from 7 through 20 and girls 8 through 12 will be eligible for enrollment in the camp. The speech defects to be treated include articulatory defects, stuttering, post-operative cleft palate and voice problems.

The cost for the eight weeks session, including room, board, and tuition will be $250. The staff will again be headed by Mr. Benjamin S. Andrews, Director, and Dr. James M. Mullendore, Consultant.

Further information and bulletins may be secured from Mr. Andrews, Box 161, Medical College of Virginia, Richmond, or Dr. Mullendore, Speech and Hearing Center, 58 East Range, University of Virginia, Charlottesville.

Health Department News.

Dr. Albert E. Pagan has been appointed Health Officer for the Page-Warren-Shenandoah Health District. This appointment became effective March 1, 1951.

Post Graduate Lecture Course.

On Wednesday, April 11, there will be held at the Yacht Club, Tappahannock, Virginia, a post graduate lecture course for members of the Northern Neck Medical Association, and Mid-Tidewater Medical Society.

Class will begin at 2:00 P.M. and continue until 9:00 P.M. with an intermission for a social hour and supper from 5:00 P.M. to 7:00 P.M.

Subjects for discussion will be on pediatrics, dermatology, gynecology, and obstetrics.

Each member is urged to attend these lectures. A small registration will be charged.

Dr. William Bickers

Has re-opened his office in the Medical Arts Building, Richmond, after completing an assignment in the Department of Obstetrics and Gynecology at the Bishop De Goesbriand Hospital, Burlington, Vermont and a visit to several of the gynecological clinics in Europe.

Dr. Everett I. Evans,

Of the Surgical Department of the Medical College of Virginia, has been elected a Consultant to the Army Medical Library.

The American Goiter Association

Will hold its 1951 meeting in the Deshler-Wallick Hotel, Columbus, Ohio, May 24-26, under the

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presidency of Dr. T. C. Davison of Atlanta. The program for the meeting will consist of papers dealing with goiter and other diseases of the thyroid gland, dry clinics and demonstrations. Further information may be obtained from the corresponding secretary, Dr. George C. Shivers, 235 Ferguson Building, Colorado Springs, Colorado.

The Virginia Society of Ophthalmology and Otolaryngology

Will hold its thirty-second annual meeting at Hotel Roanoke, Roanoke, on Saturday, May the 12th. Dr. Charles A. Young of Roanoke is president and Dr. P. N. Pastore, Richmond, secretary-treasurer.

Dr. A. C. Broders,

Recently of the Mayo Clinic but who for a time was connected with the Medical College of Virginia, Richmond, has moved to Temple, Texas, where he is associated with the Scott and White Clinic.

Dr. John S. Williams,

Who had practiced in Hopewell for about five years, left in February for Dade City, Florida, where he has accepted an offer to become medical director for the Pasco Packing Company in that city.

The American Dermatological Association

Will hold its next annual meeting at the Homestead, Hot Springs, Virginia, May 23-26. This promises to be a meeting of unusual interest as it is the Diamond Jubilee observance of the founding of the Association.

The American Congress of Physical Medicine

Will hold its twenty-ninth annual scientific and clinical session September 4, 5, 6, 7 and 8, 1951 inclusive, at the Shirley-Savoy Hotel, Denver, Colorado. Scientific and clinical sessions will be given on the days of September 4-8, 1951. All sessions will be open to physicians and other professional personnel. In addition to the scientific sessions, the annual instruction seminars will be held September 4-7. These seminars will be offered in two groups. One set of ten lectures will consist of basic subjects and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to therapists, who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

Office Space for Rent.

Doctor's or dentist's office available immediately, corner of Harrison and Franklin Streets, Richmond. Call 5-4397. (*Adv.*)

OBITUARIES

Dr. Lawther Jackson Whitehead,

Well known Richmond physician, died February 26, after a long illness. A native of North Carolina, he was fifty-nine years of age and a graduate in medicine from the Medical College of Virginia in 1916. During World War I he served with the Medical Corps of the Army in France, with the rank of captain. In 1919, he located in Richmond, where he was associated with Dr. D. D. Talley. He was a member of the Richmond Academy of Medicine, the Medical Society of Virginia, the American Medical Association, and the American Roentgenological Association. His wife and a daughter survive him.

Dr. Edward Gill Face, Jr.,

Richmond, died March the 6th, having been in ill health for sometime as the result of an automobile accident. He was a native of Norfolk and thirty-four years of age. After graduation from the University of Virginia in 1941, he interned at the New York Post-graduate Hospital, before entering the army in which he served with the rank of captain. He was a member of the Medical Society of Virginia. His wife and a daughter survive him.

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